

Team C4ISR

Team C4ISR and Industry...
Partnering in Support
of the Joint Warfighter
June 1-2, 2004

Advance
Planning
Briefing for
Industry

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DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

Office of the Deputy Chief of Staff for Operations and Plans

Ladies and Gentlemen:

On behalf of the Army Team, Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), it is my pleasure to welcome you to the 2004 Advance Planning Briefing for Industry (APBI). The theme of this year's conference is "Team C4ISR and Industry Partnering in Support of the Joint Warfighter."

Global security demands one flexible, formidable and joint fighting force equipped with the most sophisticated and technologically superior equipment. The APBI Program continues to be one of our most successful ways of strengthening the government's partnership with industry and ensuring improved combat effectiveness for our military forces. The exchange of information at these forums is key to enabling Joint Warfighters to fight smarter with less risk.

A printed copy of the proceedings and a compact disk containing information about the APBI presentations are being provided to you. The presentations include our Army requirements, sustainment efforts and corresponding contract opportunities available to industry.

I thank you for your participation in the APBI and hope you pursue future business opportunities with Team C4ISR.

Sincerely,

William H. Russ
Major General, U.S. Army
Commanding

NOTICE

This publication contains the briefings presented during this Advance Planning Briefing for Industry (APBI). Following the APBI, you may obtain a Proceedings Book for a minimal fee by contacting the Defense Technical Information Center (DTIC). The telephone number is: (800) 225-3842.

We hope that the above publication proves beneficial to your long-range planning efforts. If you have any additional questions and/or suggestions, please contact Denise Ellison, email: Denise.Ellison@us.army.mil, (732) 532-8674.

DISCLAIMER

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WELCOMING REMARKS

**MG WILLIAM H. RUSS
COMMANDING GENERAL
CECOM**



CECOM Acquisition Center



Contractors Accompanying the Force

Mr. Edward G. Elgart
Director, CECOM Acquisition Center
2 June 2004

CECOM Bottom Line: The WARFIGHTER



Agenda



- ★ Background
- ★ Management of Contractors
- ★ Regulations & Policies
- ★ What's In the Future
- ★ The Good, the Bad & the Ugly
- ★ CECOM Top Ten Lists
- ★ Team C4I&EWS Contract Opportunities

CECOM Bottom Line: The WARFIGHTER



Background

CECOM Bottom Line: The WARFIGHTER



Background



- Contractor support is designed to augment military force structure -- not replace it
- Contractor support is used on an "as needed" basis
- Contractor contributions are a valuable force multiplier to the success of our Armed Forces
- Army's ability to manage operational contractor support (OCS) directly impacts readiness and sustainment
- New regulations lay out specific guidelines about chain of command and contract requirements

CECOM Bottom Line: The WARFIGHTER



Background



- Army has become increasingly more reliant on private companies
 - Logistical, technical support, combat support (CS), and combat service support (CSS) functions
 - Operation Desert Storm- 916 contractors personnel deployed to provide maintenance, technical assistance, and equipment support
 - Operation Enduring Freedom (OEF)/ Operation Iraqi Freedom (OIF) - 32,000 repair contractor personnel in the Central Command region sent by AMC alone

CECOM Bottom Line: The WARFIGHTER



Management of Contractors

CECOM Bottom Line: The WARFIGHTER



Management of Contractors



- **The management mechanism is the contract itself as defined by the terms and conditions**

- Not under the direct supervision of military personnel
- The PCO and/or COR will monitor contractor performance and maintain day-to-day liaison activities

[CECOM Bottom Line: The WARFIGHTER]



Management of Contractors



- Following clauses are included in all contracts that require contractor deployment:

- FAR 52.228-3 Worker's Compensation Insurance:
 - As required by the Defense Base Act, Contractor must provide workers' compensation insurance
- FAR 52.228-4 Worker's Compensation and War Hazards Insurance Overseas
 - Benefits not otherwise covered by workers' compensation insurance are covered under the standards of the War Hazards Compensation Act
 - Contractor shall include this clause in all subcontracts or be responsible/liable for subcontractor employees

[CECOM Bottom Line: The WARFIGHTER]



Management of Contractors



- DFARS 252.228-7000 Reimbursement for War Hazard Losses
 - Contractor will be reimbursed by the Government costs for providing employee war-hazard benefits in accordance with the Workers' Compensation and War-Hazard Insurance clause
- DFARS 252.228-7003 Capture and Detention
 - The Government will reimburse the Contractor monies paid to captured person or person's dependents
 - Monies will not be paid if the employees were entitled to compensation for capture and detention under the War Hazards Compensation Act

[CECOM Bottom Line: The WARFIGHTER]



Management of Contractors

-DFARS 252.225-7043 Antiterrorism/Force Protection Policy for Defense Contractors Outside the US

- Requires contractors to affiliate with the Overseas Security Advisory Council

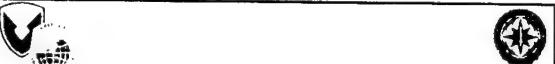
- Requires contractor and subcontractor personnel to register with the U.S. Embassy and comply with any security related requirements

-DFARS 252.209-7001 Disclosure of Ownership or Control by Government of a Terrorist Country

- If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest

[CECOM Bottom Line: The WARFIGHTER]

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Exiting and Forthcoming Regulations and Policies

[CECOM Bottom Line: The WARFIGHTER]

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Existing

• Army doctrine:

- FM 3.100-21 - Contractors on the Battlefield

• Army regulation:

- AR 715-9, Contractors Accompanying the Force
- AFARS Clause 5152.225-74-9000 Contractors Accompanying the Force

• Army policy

- AFARS Manual #2, Contingency Contracting

[CECOM Bottom Line: The WARFIGHTER]

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FM 3.100-21



FM 3.100-21 - Contractors on the Battlefield

- Theater support command is the lead organization to manage and maintain visibility for all contractors
- Commanders do not have direct control over contractor employees (only contractors manage and supervise their employees)
- The terms and conditions of contract establishes relationship between military and contractor – the link is the PCO/COR
- Contractors are required to perform all tasks identified within the Statement of Work (SOW)/Statement of Objectives (SOO)

[CECOM Bottom Line: The WARFIGHTER]

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FM 3.100-21



- Military units retain responsibility for ensuring all contractors deployed are prepared in accordance with AR 715-9
- Contractors may operate in the combat zone (if contract provides)
- Contractors can perform potentially any function except inherently governmental functions
- Establishes three conditions that must be met before contractor personnel can carry firearms
 - Commander in the area of operations must approve the carrying of firearms by contractors
 - Contractor company policy must permit its employees to carry arms
 - Contractor employee must agree to carry a firearm

[CECOM Bottom Line: The WARFIGHTER]

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AR 715-9



- AFARS 5152.225-74-9000 Contractors Accompanying the Force
- Provides uniform, Department-wide guidelines for contractors accompanying military forces in hostile environments
 - Clause addresses top-level issues
 - Assure coordination of operational requirements in the contract; and with the Combatant Commander in theater
 - Notification that operations may be in a dangerous environment
 - Be aware of pertinent rules and regulations in an OCONUS location
 - Other critical areas covered
 - Purchasing Limited Resources
 - Vehicle and Equipment Operation
 - Contractor Personnel Administration
 - Compliance with Combatant Command Orders
 - Clothing and Equipment Issue
 - Weapons and Training
 - Passports, Visas and Customs

[CECOM Bottom Line: The WARFIGHTER]

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AFARS Manual #2



- Provides guidance for implementing the FAR, DFARS, and AFARS
- Provides general information on:
 - Legal Authorities, Limitations, and Policies
 - International Relations
 - Duties and Responsibilities
 - Contracting Procedures During Contingency Operations
 - Claims, Seizures, Disputes and Appeals
 - Contingency Contracting Support Kit

CECOM Bottom Line: The WARFIGHTER

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Forthcoming



- New DOD Directive/DOD Instruction
- New DFARS clause
- Update AFARS Manual #2 (Contingency Contracting)
- Develop AFARS Manual #3 (Contractors on the Battlefield)
- Revise FM 3.100-21 (Contractors on the Battlefield)

CECOM Bottom Line: The WARFIGHTER

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DFARS Clause



- Pending DFARS clause 252.225-70XX
 - Issued for comment in Federal Register, dated March 23, 2004 (Volume 69, Number 56); comments due March 24, 2004
 - Contractor accepts the risks associated with required contract performance
 - Contractor is responsible for all resources required to perform contractual effort
 - Contractor shall comply with all laws and regulations (Host Nation, treaties, etc.)
 - Contractor shall have a plan to remove/replace any personnel who jeopardize mission completion
 - Provides contractor all pre-deployment requirements
 - Instructions of the Combatant Commander take precedence of any existing terms of this clause
 - **Authorizes contractors to carry privately-owned weapons**

CECOM Bottom Line: The WARFIGHTER



Draft DOD Directive and Instruction



- Draft DoD Directive and DoD Instruction
 - Both titled "Management of Contractor Personnel During Contingency Operations"
 - Currently in staffing
 - Content covers many of the same areas as both the Army and DoD clauses:
 - Applicability of laws
 - Continuation of essential services
 - Deployment processing
 - Clothing & equipment
 - Weapons
 - Personnel accountability
 - Administrative preparation



AFARS & DFARS Comparison

- **DFARS text includes existing AFARS text**
 - **Notification of Next of Kin**
 - **Evacuation of personnel and bodies**
 - **Insurance**
 - **Changes and Emergency Changes**
 - DFARS allows combatant commander to "trump" contract transportation, logistical, and support requirements and the contractor may request an equitable adjustment
 - There is a separate paragraph that allows the same in "emergencies"
- **Clarifies contractor is responsible for all its employees' support unless told otherwise in the contract or combatant commander's operational order**



AFARS & DFARS Comparison

- DFARS provides clarification language
 - Clause applies to service, construction, and supply contracts when contractors must accompany or be available to accompany a force in contingency, humanitarian, peacekeeping, or combat operations outside the US
- DFARS clause adds coverage to Part 12 (i.e. this can be used in commercial contracts)
- Authorized weapon
 - DFARS authorizes privately owned weapons
 - AFARS only authorizes government issue weapons
 - May be intended to address desire to allow contractors to provide their own security
 - Does not include requirement for contractor and employee to agree to carry a weapon, as does the AFARS clause

******Current indication is that upon implementation of DFARS Clause, AFARS language will be revised or deleted.***

[CECOM Bottom Line: The WARFIGHTER]



Contractors Accompanying the Force: The Good, Bad, and Ugly

CECOM Bottom Line: The WARFIGHTER

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The Good

- Contractor deployment provides for the increase/decrease of available support resources quickly in response to changing requirements
 - Can extend existing military capability,
 - Provide alternative sources of supplies and services, or
 - Provide capabilities for which no military capability exists

CECOM Bottom Line: The WARFIGHTER

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The Bad - RISK

- Contractors cannot provide their own security; require military escorts resulting in additional military personnel
- Proximity to the battlefield
- Nuclear, Biological, Chemical (NBC) threat – protective gear not guaranteed
- Classified as noncombatants
 - An individual in any unit of the armed forces which is unarmed at all times
 - When armed, unclear distinction as to combatant/noncombatant
 - Result is contractor is afforded some, but not all, of the protections

CECOM Bottom Line: The WARFIGHTER

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The Ugly



- Lack of contractor performance
 - Poor performance/no performance
 - Potential of individuals to walk off the job
 - Legal ramifications (i.e. Contract termination, consideration)
- Limited or no alternatives/remedies available to commander in the field

CECOM Bottom Line: The WARFIGHTER

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CECOM Top 10 Lists



CECOM Bottom Line: The WARFIGHTER

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CECOM Top Ten Large Businesses - FY2003



Contractor	# Actions	Total \$
•Raytheon	292	492.0M
•General Dynamics	404	415.0M
•Lockheed	503	325.0M
•ITT	179	269.0M
•MITRE	92	259.0M
•Northrop Grumman	344	219.0M
•ARINC	324	182.0M
•TRW	168	167.0M
•Harris	87	129.0M
•Computer Sciences	166	112.0M

CECOM Bottom Line: The WARFIGHTER

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CECOM Top Ten Small Businesses - FY2003



Contractor	# Actions	Total \$
•Signal Corp/Veridian IT Services	316	176.0M
•Bren-Tronics, Inc	24	78.0M
•Sytex, Inc	175	70.0M
•Ulralife Batteries, Inc	12	51.0M
•EIOR Technologies, Inc	185	48.0M
•Chenega Technology Services	105	47.0M
•Fibertek, Inc	156	38.0M
•TAMSCO	24	35.0M
•Datapath, Inc	52	30.0M
•Galaxy Scientific Corp	33	27.0M
•Engineering & Professional Services	39	21.0M

[CECOM Bottom Line: The WARFIGHTER]



CECOM Top Ten 8(a) Businesses - FY2003



Contractor	# Actions	Total \$
•Chenega Technology	105	47.0M
•Engineering Systems Solutions	18	7.8M
•Antenna Research Associates, Inc	05	4.0M
•Viatech, Inc	31	3.4M
•Aerospace Integration Corp	20	3.3M
•Custom Manufacturing & Engineering	04	2.8M
•Chenega Technical Products	02	2.0M
•R&D Electronics	03	1.8M
•ASRC Communications LTC	15	1.4M
•Aquila Management, Inc	10	1.4M

[CECOM Bottom Line: The WARFIGHTER]



CECOM Top Ten Large Businesses - FY2004 to Date*



Contractor	# Actions	Total \$
•Raytheon	160	523.0M
•General Dynamics	310	417.0M
•MITRE	45	244.0M
•ITT	67	225.0M
•Boeing	14	209.0M
•Lockheed	212	173.0M
•Computer Sciences	126	170.0M
•BAE	53	139.0M
•ARINC	156	120.0M
•CACI	185	90.0M

* As of 10 May 2004

[CECOM Bottom Line: The WARFIGHTER]

 **CECOM Top Ten Small Businesses - FY2004 to Date*** 

Contractor	# Actions	Total \$
TAMSCO	40	78.0M
EIOR Technologies, Inc.	101	46.0M
Ultralife Batteries, Inc.	08	43.0M
Signal Corp/Veridian IT Services	93	43.0M
Datapath, Inc.	25	41.0M
Sytex, Inc.	61	24.0M
Choctaw Manufacturing	07	22.0M
Engineering & Professional Services	26	20.0M
Bren-Tronics, Inc.	04	17.0M
FiberTek, Inc.	86	16.0M

* As of 10 May 2004

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CECOM Bottom Line: The WARFIGHTER

 **CECOM Top Ten 8(a) Businesses - FY2004 to Date*** 

Contractor	# Actions	Total \$
Choctaw Manufacturing	07	22.0M
Janus Research Group, Inc	15	11.0M
Custom Manufacturing & Engineering	09	7.0M
Chenega Technology	13	6.0M
ASRC Communications LTC	08	1.4M
Aerospace Integration Corp	09	1.3M
Binary Consulting, Inc.	04	1.0M
New World Environmental, Inc.	04	0.5M
R&D Electronics	01	0.2M
Aquila Management, Inc.	01	0.2M

* As of 10 May 2004

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CECOM Bottom Line: The WARFIGHTER

 **Source of Information** 

- AMC Website: <http://www.amc.army.mil/amc/rda/rda-ac/ck/ck-prime.htm>
 - Regulatory documents and suggested contract clause language
 - Other related documents
 - Organizational/institutional information
 - Technical information
 - Deployment/Health/Personnel information
 - Other information (Country/Cultural, Articles)

CECOM Bottom Line: The WARFIGHTER

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 CECOM Acquisition Center
Our Ingredients To Success 

PROACTIVE
APPROACH TO
CONTRACTING
EXCELLENCE

THROUGH

PEOPLE
AUTOMATION
CONTINUOUS PROCESS IMPROVEMENT
EDUCATION

 PACE²

CECOM Bottom Line: The WARFIGHTER 34

 Contract Title 

- TITLE:
- CONTRACT TYPE:
- ESTIMATED VALUE:
- KEY MILESTONES:
- TECHNICAL POC:
- ACQUISITION CONTACT:
- SOLICITATION # or RFQ #:

CECOM Bottom Line: The WARFIGHTER 35



Contract Opportunities



Mr. Anthony LaPlaca

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CECOM Logistics and Readiness Center

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CECOM Bottom Line: THE WARFIGHTER

Page #1



Long Term Contract Definitions



- **Flexible Long Term Contract (FLTC):** range quantity contracts of three or more years covering the production and/or repair of one or more spare parts.
- **Indefinite Delivery Indefinite Quantity (IDIQ) Contract:** a vehicle that provides for an indefinite quantity, within stated limits, of specific supplies or services during a fixed period, with deliveries to be scheduled by placing orders with the contractor. The Government is obligated to a stated minimum. Funds other than the minimum are obligated at the time of subsequent orders.
- **Requirements Contract:** An instrument that provides for filling all purchase requirements of designated Government activities for specific supplies or services during a specified contract period with deliveries to be scheduled by placing orders with the contractor. No money is obligated at award; funds are obligated when delivery orders are written. There is no guaranteed minimum quantity.

CECOM Bottom Line: THE WARFIGHTER

Page #2



Long Term Contract Definitions (continued)



- **Blanket Purchase Agreement (BPA) :** A simplified method of filling the government's anticipated repetitive needs for supplies or services by establishing charge accounts with qualified sources of supply. (FAR 13.303)
 - BPAs are designed to reduce administrative costs in accomplishing simplified acquisitions by eliminating the need for individual purchase documents.
 - Individual purchases under BPAs may not exceed the dollar limitation for simplified acquisitions, and the existence of a BPA does not justify sole source purchasing
 - BPAs are also being used with vendors that have products or services on the Federal Supply Schedule (FAR 8.404 (b)(4)).

CECOM Bottom Line: THE WARFIGHTER

Page #3

LTCs Projected for FY 04-05

- LRC Omnibus III
- Main Alternators for Military Standard Generators
- Repair of AN/APN-209 LRUs
- T-611 and CN-405
- AN//VS-2(V) Systems Buy
- Spare Parts for AN//VS-2
- Night Vision Spare Parts
- AN/PVS-4A and AN/TVS-5 Spares
- AN/PVS-7A and AN/PVS-10 LIFs
- Mechanical Scanner
- Arctic LCSS Support System
- Light Emitting Diode Arrays
- AS-3900A and AS-3916 Antennas and Spares

CECOM Bottom Line: THE WARFIGHTER

Page #4

LRC Omnibus III

- Acquire a full range of life cycle integrated logistics, technical, engineering and administrative support services
- Services will support the LRC and any CECOM activity or organization requiring personnel, facilities, and materials.
- The goal of this program is to assure maximum mission effectiveness and system operational availability in the most cost effective manner by providing contractor personnel with skill levels and expertise to complement present organic Government capabilities

CECOM Bottom Line: THE WARFIGHTER

Page #5

LRC Omnibus III

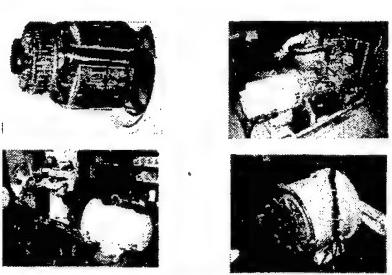
- Objective: Award an OMNIBUS Services contract to meet current and future requirements relative to Field and Weapon System Support
- Contract Type: IDIQ, Multiple Awards, 5 years (2 year basic, 3 one-year award terms)
- Estimated Value: \$500M - \$700M
- Key Milestones Solicitation release: August 2004
 Award: December 2004
- Technical Contact: Jean Cash, 732-532-3042
- Acquisition Contact: Gail Jablonski, 732-532-4847
- Solicitation #: W15P7T-04-R-D624

CECOM Bottom Line: THE WARFIGHTER

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Main Alternators for Military Standard Generators



CECOM Bottom Line: THE WARFIGHTER

Page #7



Main Alternator for Military Standard Generators



- Military Standard Generators are utilized by many different units to provide power in support of their mission
- End Items are: MEP-701, MEP-002, MEP-003, MEP-004, MEP-005, MEP-006
- 22 secondary components
- Engines: 4 and 6 cylinder
- Fuels: Diesel: DL-1,2, and Jet Fuel: JP-8, Jet A-1
- Environmental Capability: -25 deg F (-65 deg w/winterization kit) to 125 deg F, rain, humidity, altitude, sand/dust, transportation, cold storage, salt spray, fungus

CECOM Bottom Line: THE WARFIGHTER

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Main Alternator for Military Standard Generators

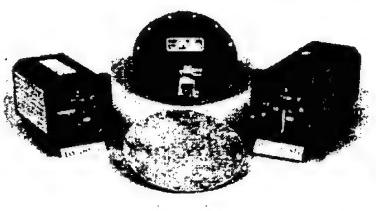


- Objective: To support current and future requirements by awarding a Firm Fixed Price contract.
- Contract Type: 5 year basic contract with 5 year option
- Estimated Value: \$3M-\$9.5M
- Key Milestones: Solicitation release: September 2004 Award: November 2004
- Technical Contact: William Hogelin, 732-427-6321
- Acquisition Contact: William Frantz, 732-532-5248
- Solicitation #: DAAB07-03-R-D620

CECOM Bottom Line: THE WARFIGHTER

Page #9

 Repair of AN/APN-209 LRUs 



CECOM Bottom Line: THE WARFIGHTER

Page # 10

 Repair of AN/APN-209 LRUs 

- The AN/APN-209(V) Radar Receiving Set is an absolute altimeter that provides an accurate indication of the altitude of an aircraft over all types of terrain.
- Provides safe Nap-of-Earth flying capabilities for helicopters.
- Newest models provide voice warning when the aircraft is above or below certain fixed or pilot adjustable altitudes.

CECOM Bottom Line: THE WARFIGHTER

Page # 11

 Repair of AN/APN-209 LRUs 

Objective: To award a contract for repair of various AN/APN-209 Line Replaceable Units (LRUs).

Contract Type: ID/IQ, 5 years, Best Value

Estimated Value: \$210K-\$3.5M

Key Milestones: Solicitation release: August 2004
Award: December 2004

Technical Contact: David Savitsky, 732-532-1627

Acquisition Contact: Thomas McConnell, 732-532-5486

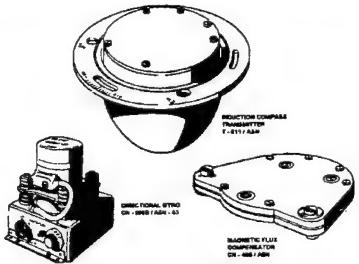
Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

Page # 12

**Induction Compass Transmitter T-611
& Magnet Flux Compensator CN-405**



AN/ASN-43() Gyro Magnetic Compass Set

CECOM Bottom Line: THE WARFIGHTER

Page # 13

**Induction Compass Transmitter T-611
& Magnet Flux Compensator CN-405**

- The T-611 and the CN-405 are the magnetic slaving units of the AN/ASN-43() Gyromagnetic Compass Set, which is used on the UH-60 and the CH-47 aircraft.
- The AN/ASN-43() provides accurate heading information in the DG mode (free gyro) or the MAG mode (magnetically slaved).
- The T-611 detects the earth's magnetic field whereas the CN-405 compensates for stray magnetic fields.

CECOM Bottom Line: THE WARFIGHTER

Page # 14

**Induction Compass Transmitter T-611
& Magnet Flux Compensator CN-405**

Objective: To award a contract for production of the T-611 and CN-405

Contract Type: IDIQ, 5 years

Estimated Value: \$436K-\$1.5M

Key Milestones: Solicitation release: 1Q FY05
Award: 3Q FY05

Technical Contact: Ivan McGowan, 732-532-4974

Acquisition Contact: Mark Young, 732-532-1983

Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

Page # 15

 **AN/VVS-2(V) Systems Buy** 



CECOM Bottom Line: THE WARFIGHTER Page #16

 **AN/VVS-2(V) Systems Buy** 

- The AN/VVS-2 Driver's Viewer enables a closed-hatch vehicle to be driven during night time conditions without active illumination.
- The Driver's viewer is a through-the-hull/hatch night periscope for armored vehicles.
- There are different versions: AN/VVS-2(V)1A, AN/VVS-(V)2A, AN/VVS-2(V)3 & AN/VVS-2(V)4. The Driver's Viewers are self-contained night vision devices that improve night vision using available light from the night sky for a vehicle driver. The area viewed is presented as a green image display. It is lightweight enough to be installed from within the vehicle and can be manually rotated from between 30° to 45° depending on the vehicle in which it is to be mounted.

CECOM Bottom Line: THE WARFIGHTER Page #17

 **AN/VVS-2(V) Systems Buy** 

Objective: To award a production contract for four versions of the AN/VVS-2 Driver's Night Viewer.
 Contract Type: IDIQ, 5 years
 Estimated Value: \$3.5M-\$50M
 Key Milestones: Solicitation release: April 2005
 Award: July 2005
 Technical Contact: Susan Weir, 732-427-5722
 Acquisition Contact: Jo-Ann Lee, 732-532-2315
 Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER Page #18

 Spare Parts for the AN/VVS-2 



CECOM Bottom Line: THE WARFIGHTER Page # 19

 Spare Parts for the AN/VVS-2 

- The AN/VVS-2 Driver's Viewer enables a closed-hatch vehicle to be driven during night time conditions without active illumination.
- The Driver's viewer is a through-the-hull/hatch night periscope for armored vehicles.
- 5 spare parts being purchased are Objective Lens Assembly, 2 different Mount Housing Assemblies, Plate Assembly, and Eyepiece Lens Assembly.

CECOM Bottom Line: THE WARFIGHTER Page # 20

 Spare Parts for the AN/VVS-2 

Objective: To award a contract for production of five spare parts required for the Driver's Night Vision Viewer, AN/VVS-2.

Contract Type: IDIQ, 5 years

Estimated Value: \$3.65M-\$43.8M

Key Milestones: IFB: April 2004
Award: July 2004

Technical Contact: Susan Weir, 732-427-5722

Acquisition Contact: Jo-Ann Lee, 732-532-2315

Solicitation #: W15P7T-04-R-L210

CECOM Bottom Line: THE WARFIGHTER Page # 21



Night Vision Spare Parts

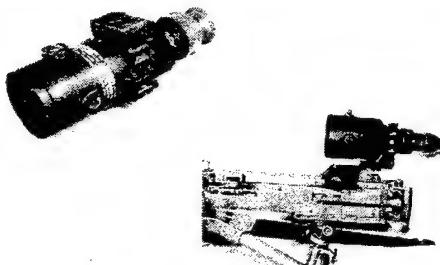
- Gen III I² spares will sustain the U.S. Armed Force's ability to perform tasks at night with an efficiency approaching that under daylight conditions.
- The Gen III I² spares support passive devices, which amplify available light.
- 33 spare parts (including tubes) to be purchased include parts for AN/AVS-6(V)1A, (V)1B, (V)3Aviator's Night Vision Imaging Systems (ANVIS), AN/PVS-7A, B & D Night Vision Goggles, and AN/PVS-14 Monocular Night Vision Device (MNVD).
- Gen III 25mm Image Intensifier Tubes, MX-11619 and MX-11620 are also being purchased which are parts for AN/VVS-2 Drivers Night Vision Viewer, AN-PVS-4 Individual Served Weapon Night Vision Sight, and AN-TVS-5 Crew Served Weapon Night Vision Sight.



Night Vision Spare Parts

- ❑ Objective: To replace IDIQ contracts which have exceeded quantity thresholds
- ❑ Contract Type: Multiple BPAs, 5 years
- ❑ Estimated Value: \$10M - \$15M
- ❑ Key Milestones: Initial BPA Awards: May-July 04
Additional call orders will be placed thru FY09
- ❑ Technical Contact: Susan Weir, 732-427-5722
- ❑ Acquisition Contact: Deborah Gilligan, 732-532-5454
- ❑ Solicitation #: W15P7T-04-R-J204

**AN/PVS-4 and AN/TVS-5
Spares**



CECOM Bottom Line: THE WARFIGHTER

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**AN/PVS-4 and AN/TVS-5
Spares**

- The AN/PVS-4 provides passive sighting and viewing of targets using second generation image intensifier techniques.
- When mounted on individual weapons, the scope will provide the capability for delivery of accurately aimed fire during hours of darkness.
- The system is easily installed and removed from the weapon using suitably designed brackets which require no modification to the weapon.
- AN/PVS-4 is primarily designed for use with the M14, M16 and M4 Rifles, M60 and M240B Machine Gun, M249 Squad Automatic Weapon, M72A1 Rocket Launcher and M203 Grenade Launcher, M4 Carbine and M240B Machine Gun. The sight can be used in the hand-held mode for night surveillance.
- AN/PVS-4 spare parts being purchased are the Objective Lens Assembly and the Eyepiece Lens Assembly.

CECOM Bottom Line: THE WARFIGHTER

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**AN/PVS-4 and AN/TVS-5
Spares**

- The AN/TVS-5 provides sighting and viewing of targets.
- When mounted on crew served weapons, the scope will provide the capability for delivery of accurately aimed fire during hours of darkness.
- AN/TVS-5 is primarily designed for use with the M2 and M60 Machine Gun and the 106mm Recoiless Rifle.
- The sight can be used in the handheld mode for night surveillance by individual soldiers, commanders and reconnaissance elements.
- Spare part being purchased is the Objective Lens Assembly.

CECOM Bottom Line: THE WARFIGHTER

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AN/PVS-4 and AN/TVS-5 Spares



❑ Objective: To award a small business contract for the Eyepiece Assembly for the AN/PVS-4 and Objective Lens Assemblies for the AN/PVS-4 and AN/TVS-5.

❑ Contract Type: IDIQ, 5 years

❑ Estimated Value: \$772K-\$4.85M

❑ Key Milestones: Solicitation release: 1Q FY05
Award: 2Q FY05

❑ Technical Contact: Daniel McLendon, 732-532-6241

❑ Acquisition Contact: Pat Kofron, 732-427-1484

❑ Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

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AN/PVS-7A and AN/PVS-10 Light Interference Filters (LIFs)



CECOM Bottom Line: THE WARFIGHTER

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AN/PVS-7A and AN/PVS-10 Light Interference Filters (LIFs)



- The AN/PVS-7 is a helmet - mounted image intensification system used by individual soldiers for night operations including such tasks as driving, walking, first-aid, map reading and maintenance.
- The system is designed for use in conjunction with rifle mounted aiming lights.
- Technology: Passive, Third Generation Image Intensification (18mm Image Intensifier Tube).

CECOM Bottom Line: THE WARFIGHTER

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AN/PVS-7A and AN/PVS-10 Light Interference Filters (LIFs)



- The AN/PVS-10 is an integrated day/night sight for the M24 sniper rifle that provides the sniper with the capability to acquire and engage targets under both day and night conditions.
- For nighttime operation, the system utilizes third generation image intensification technology.
- The system mounts to the existing rail of the M24 rifle and uses the standard mil-dot reticle.
- The LIF protects the user from eye injury and protects the image intensifier from damage from battlefield lasers.

CECOM Bottom Line: THE WARFIGHTER

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AN/PVS-7A and AN/PVS-10 Light Interference Filters (LIFs)



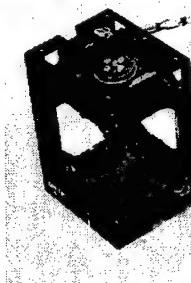
- Objective: To award a contract for production of two spare parts required for the AN/PVS-7A Night Vision Goggle & AN/PVS-10 Snipers Night Sight.
- Contract Type: IDIQ, 5 years
- Estimated Value: \$1M-\$3.7M
- Key Milestones: Solicitation release: 1Q FY05
Award: 2Q FY05
- Technical Contact: Susan Weir, 732-427-5772
- Acquisition Contact: Pat Kofron, 732-427-1484
- Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

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Mechanical Scanner



CECOM Bottom Line: THE WARFIGHTER

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- The Mechanical Scanner is a subcomponent to 1st Generation Forward Looking Infrared Systems (FLIR).
- Utilizes a two-sided mirror to scan Infrared energy on one side and visible light on the opposite. There are several motors utilized to perform the scanning function as well as several transducers to assure proper interlacing of the images.
- There are several different versions/configurations of the scanner dedicated to various end item/platform requirements.
- Must be fully operational in ambient temperatures of +71C and -54C.
- Must be able to withstand mechanical shock of 100G for a duration of 11 msec.

Mechanical Scanner

- ❑ Objective: Maintain source of supply for Mechanical Scanners to meet Army requirements
- ❑ Contract Type: IDIQ, 5 years, Best Value
- ❑ Estimated Value: \$10M-\$20M
- ❑ Key Milestones: Solicitation release: 1Q FY05
Award: 2Q FY05
- ❑ Technical Contact: John Chiesa, 732-427-5804
- ❑ Acquisition Contact: Pat Kofron, 732-427-1484
- ❑ Solicitation #: TBD

The diagram illustrates the Arctic LCSS Support System components. It shows a long, rectangular transport case with a handle at the top left. To its right are two 12'4" pole assemblies, each consisting of a vertical pole section and a horizontal crossbar. Above the poles are ten stakes. To the right of the poles is a 6'-spreader adapter assembly, which includes a small cylindrical container and a U-shaped spreader. Below the adapter is a single batten spreader. The components are labeled as follows:

- TRANSPORT CASE
- 10 STAKES
- 12'4" POLE ASSEMBLIES
- 6'-SPREADER ADAPTER ASSEMBLY
- 1 BATTEN SPREADERS OF EITHER DESIGN



Arctic LCSS Support System



- Lightweight Camouflage Screen System (LCSS) is a legacy system, to be replaced by Arctic ULCANS in the FY 05 – 06 timeframe.
 - Provides concealment from Visual, Near IR/Thermal and Radar sensors.
 - The support system, snow (NSN 1080-01-256-0678) is white in color and is used with the snow, radar scattering or radar, transparent screen systems.
 - The support system consists of:
 - Twelve each four foot aluminum (Type 1) pole sections.
 - Eighteen each aluminum stakes.
 - Eighteen each batten spreaders, which support the screens.
 - A locking device called a spreader adapter assembly.
 - A repair kit is furnished containing enough material for users to perform repairs on the screen.
 - A carrying case for the support system.

CECOM Bottom Line: THE WARFIGHTER

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Arctic LCSS Support System



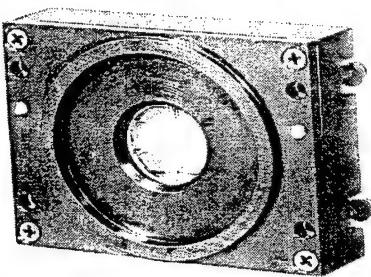
- ❑ Objective: To fill requirements for Arctic LCSS Support Systems
 - ❑ Contract Type: IDIQ, 5 years, Best Value
 - ❑ Estimated Value: \$1.9M-\$2.1M
 - ❑ Key Milestones: Solicitation release: 4Q FY04
Award: 1Q FY05
 - ❑ Technical Contact: Troy Hayes, 732-427-5420
 - ❑ Acquisition Contact: Pat Kofron, 732-427-1484
 - ❑ Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

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Light Emitting Diode Arrays



CECOM Bottom Line: THE WARFIGHTER

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Light Emitting Diode Arrays



- The Light Emitting Diode Array is a subcomponent to the 1st Generation Forward Looking Infrared Systems (FLIR)
- Light Emitting Diode Arrays (LED) perform the function of Electrical to Optical conversion for use in FLIR Systems
- LEDs have several configurations dependent upon end item/platform requirements. There are 60 element (SU-127), 120 element (SU-122) and 180 element (SU-96) configurations
- LEDs must be fully operational in ambient temperatures of +71C and -54C
- LEDs must be able to withstand mechanical shock of 100G for a duration of 11 msec

CECOM Bottom Line: THE WARFIGHTER

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Light Emitting Diode Arrays



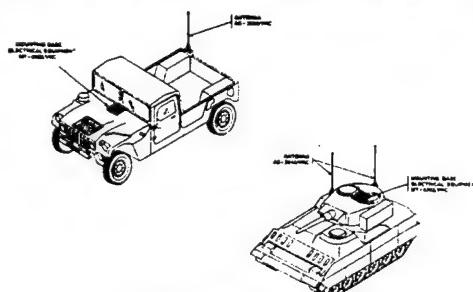
- Objective: Maintain Source of supply for Light Emitting Diode Arrays to meet Army requirements
- Contract Type: IDIQ, 5 years
- Estimated Value: \$5M-\$15M
- Key Milestones: Solicitation release: October 2004
Award: February 2005
- Technical Contact: John Chiesa, 732-427-5804
- Acquisition Contact: Pat Kofron, 732-427-1484
- Solicitation #: TBD

CECOM Bottom Line: THE WARFIGHTER

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AS-3900A and AS-3916 Antennas and Spares



CECOM Bottom Line: THE WARFIGHTER

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AS-3900A and AS-3916 Antennas and Spares



	AS-3900A	AS-3916
Description	9' bi-pole fiberglass whip antenna consisting of upper and lower element and base subassembly	6' mono pole steel whip attached to a base subassembly
Used with	SINCGARS Ground Radios in wheeled vehicles	SINCGARS Radios in tracked vehicles
Frequency	30-88 MHz range; frequency hopping capability	30-88 MHz
Range	Approx 22 miles	Approx 17 miles
Components/ NSNs	Antenna 5985-01-353-4943 Base 5985-01-353-8696 Upper element 5985-01-306-4622 Lower element 5985-01-306-6110	Antenna 5985-01-353-4943 Base 5985-01-376-8012

CECOM Bottom Line: THE WARFIGHTER

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AS-3900A and AS-3916 Antennas and Spares



- Objective: To replace expiring contracts for the antennas and associated spare parts.
- Contract Type: IDIQ, 5 years, Best Value
- Estimated Value: \$30M-\$50M
- Key Milestones: Solicitation release: July 2004
Award: November 2004
- Technical Contact: Man Bun Lau, 732-532-9177
- Acquisition Contact: Michael Neeb, 732-532-5512
- Solicitation #: W15P7T-04-R-G634

CECOM Bottom Line: THE WARFIGHTER

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PEO C3T

PEO C3T Overview

Mr. John Perrapato
Deputy Program Executive Officer
Command, Control and Communications/Tactical

OUR ARMY AT WAR - RELEVANT AND READY

PEO C3T

Mission Statement

To rapidly develop, field, and support leading edge, survivable, secure and interoperable tactical, theater, and strategic command and control and communications systems through an iterative, spiral development process that results in the right systems, at the right time and at the best value to the warfighter.

"System Architect for Tactical Army"

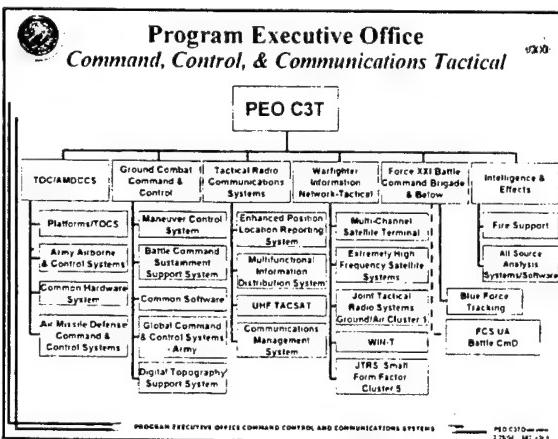
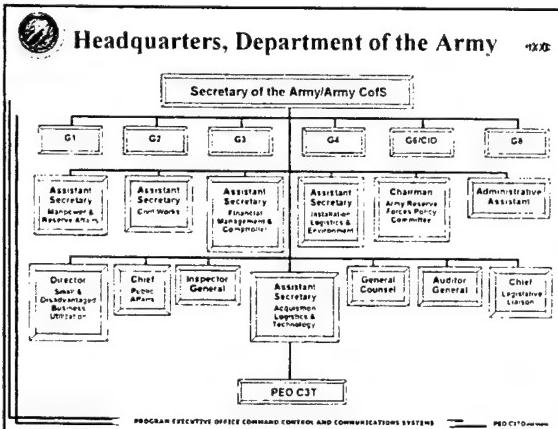
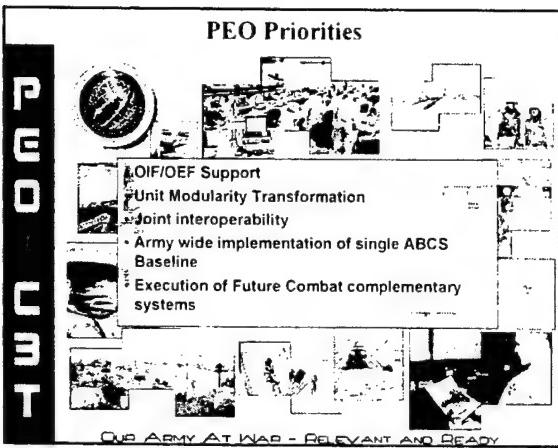
OUR ARMY AT WAR - RELEVANT AND READY

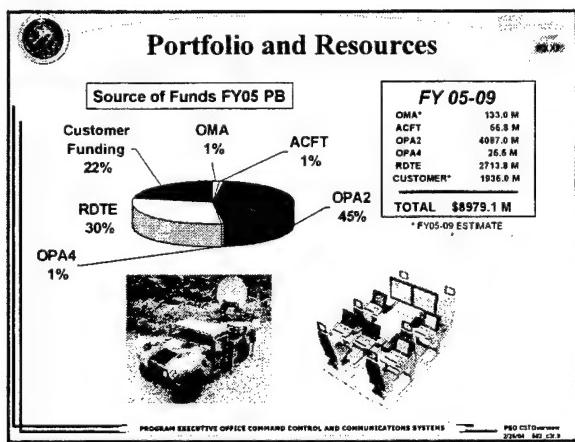
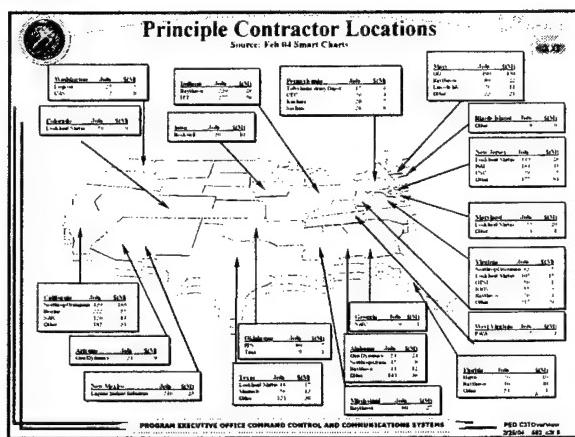
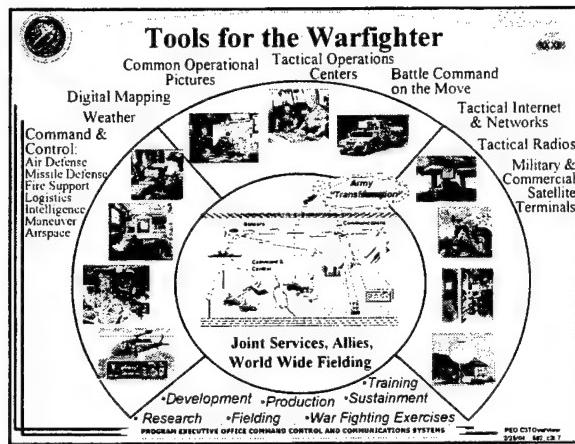
PEO C3T

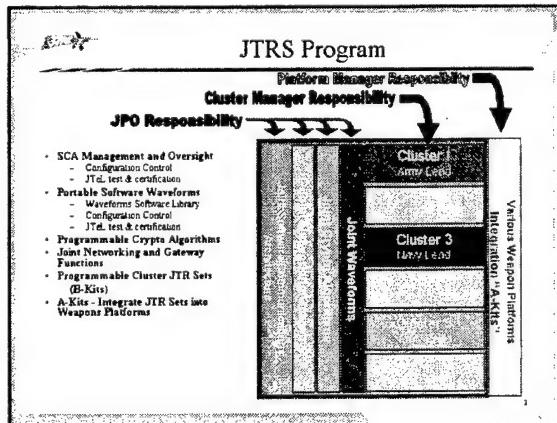
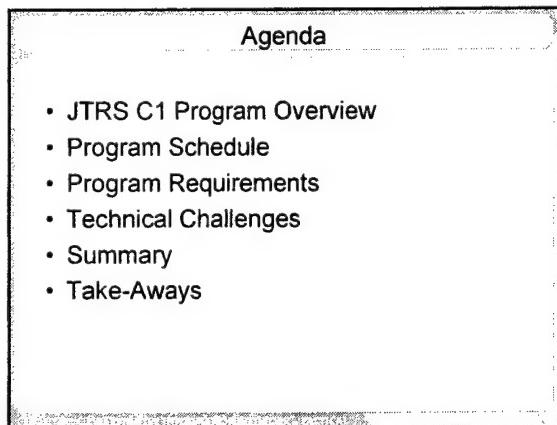
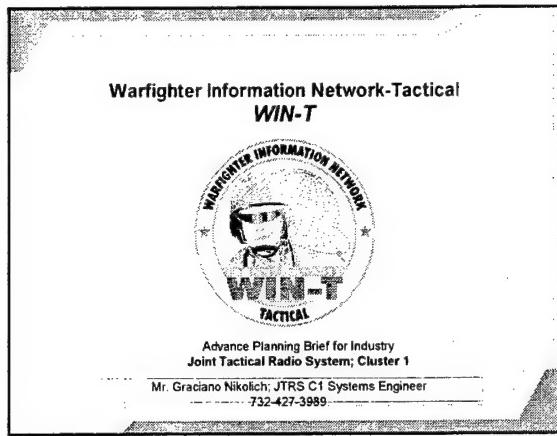
Vision Statement

To be the premier provider of integrated C3 solutions to the Warfighter while supporting transformation of the collective force. PEO C3T has evolved as the "C3 Expert" and is dedicated to providing information superiority to the Warfighter and Homeland Defense. We provide the right system, at the right time and at the best value.

OUR ARMY AT WAR - RELEVANT AND READY



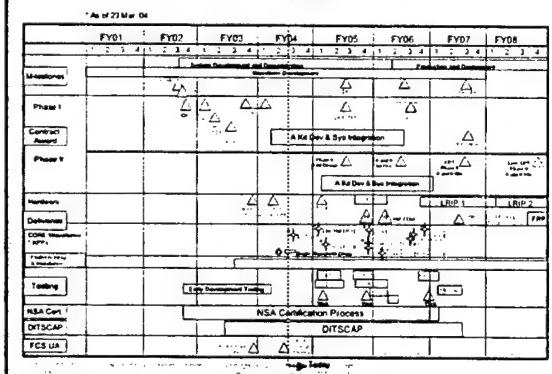




Cluster 1 Program Overview

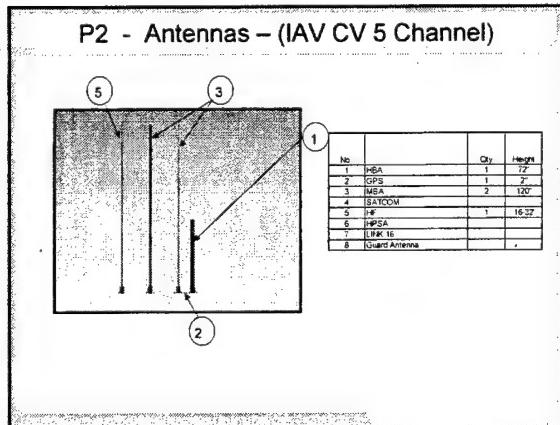
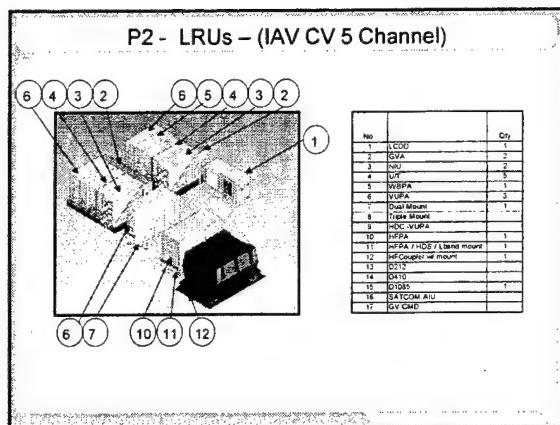
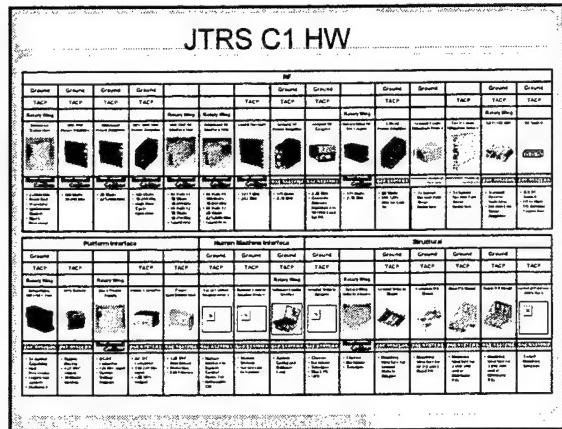
Objectives And Goals	Customer	Deliverable																												
<ul style="list-style-type: none"> Interoperability Portability of Waveforms Technology Invention Develop & Deliver SCA Compliant Waveforms to JPO Develop & Deliver JTRS Compliant Radios Support Aviation Recalibration Schedule Support FCO Objective Force Schedule 	JPO USAF TACP USMC USA	SCA Compliant Waveforms (SW WF) TAC-P Link 16(1) (nm) GND Vehicular (nm) GND Vehicular (nm)																												
Program Major Milestones	<table border="1"> <thead> <tr> <th>DATE</th> <th>EVENT</th> </tr> </thead> <tbody> <tr> <td>02 Aug 01</td> <td>ASR Approved</td> </tr> <tr> <td>26 Aug 01</td> <td>Initial Release</td> </tr> <tr> <td>07 Mar 02</td> <td>ASAPC</td> </tr> <tr> <td>26 Mar 02</td> <td>GPI</td> </tr> <tr> <td>01 Jun 02</td> <td>MSB # Decision Review</td> </tr> <tr> <td>24 Jun 02</td> <td>MSB # Decision</td> </tr> <tr> <td>10F Y05 20F Y05</td> <td>EOA</td> </tr> <tr> <td>30F Y05</td> <td>LRRP Approved</td> </tr> <tr> <td>30F Y05</td> <td>LRP UT</td> </tr> <tr> <td>30F Y06</td> <td>MS C</td> </tr> <tr> <td>10F Y07 30F Y07</td> <td>MOTAC</td> </tr> <tr> <td>30F Y07</td> <td>FUE</td> </tr> <tr> <td>40F Y08</td> <td>FPP</td> </tr> </tbody> </table> <p><i>All milestones in above are completed</i></p>		DATE	EVENT	02 Aug 01	ASR Approved	26 Aug 01	Initial Release	07 Mar 02	ASAPC	26 Mar 02	GPI	01 Jun 02	MSB # Decision Review	24 Jun 02	MSB # Decision	10F Y05 20F Y05	EOA	30F Y05	LRRP Approved	30F Y05	LRP UT	30F Y06	MS C	10F Y07 30F Y07	MOTAC	30F Y07	FUE	40F Y08	FPP
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10F Y07 30F Y07	MOTAC																													
30F Y07	FUE																													
40F Y08	FPP																													

JTRS Cluster 1 Acquisition Schedule



JTRS Cluster 1 System Description/Requirement

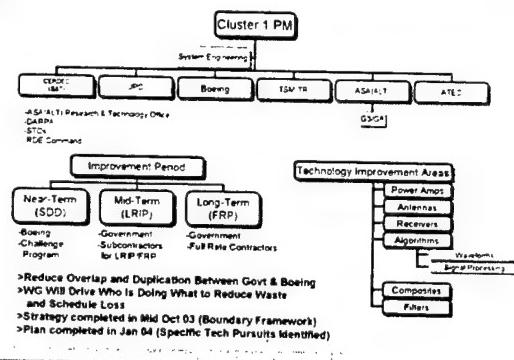
Description/Capabilities			
<ul style="list-style-type: none"> Voice, Data and Video Communications Operational Requirement Document (ORD) Required Waveforms Supports Commercial Internet Protocol Routing & Tacnode Internet Protocols Joint Test Equipment - Army Compliant Open System Architecture Multi-Channel <ul style="list-style-type: none"> - 2 Channel - Ground - 2 Channels - Radar Wing Software Communications Architecture Compliant Rerouting and Retransmission (Crossbearing) Programmable waveforms and crypto 	2 channel ground 15.4 x 7.5 x 15 in - 84 lbs	8 channel RW 14 x 7.5 x 15 in - 153bs (B-Kit, w/o CE101 Mass)	
Requirements	<p>JTRS Operational Requirements Document V3.3</p> <ul style="list-style-type: none"> Part 4 - Capabilities Appendix A - Ground Domain & C (Ground Domain) Performance Requirements Document (PRD) JTRS Cluster 1 <ul style="list-style-type: none"> Appendix 1A through 1N - Waveforms (JPO) Appendix 1O - Worldwide Networking Waveforms Appendix 2A through 2E - External Partner (IAF) Contract Number DAAB07-02-C-C403 30W Telecommunications Security Requirements Document (TSRD) United Interop Criteria 		



Technical Challenges

- Power Dissipation
- Requirements that significantly impacted Size/Weight/Power (SWaP)
 - Flexibility to run any waveform in any channel
 - Multiple Single Level Security (MSLS)
 - Software Communications Architecture (SCA)
 - Universal wideband amplifiers
- Industrial grade components require more cooling
- CE-101 not waived for Rotary Wing JTRS added 60 lbs
- Wide band antenna performance

Technology Development Strategy Working Group



Technology Development Strategy (TDS)

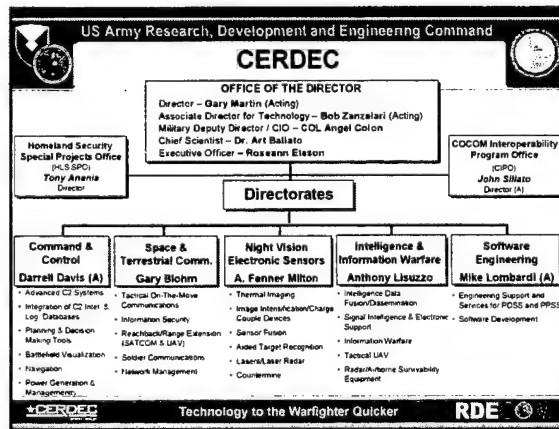
- * Seize earliest opportunities for mature improved, affordable and reliable WNW supporting PA, Antenna and Filter technology insertion to Cluster 1 at all Phases while simultaneously maintaining the current program progress with recognized technology shortfalls.
- Demonstrate incremental improvement by using phased approach to mitigate anticipated unnecessary programmatic risks and costs.
- Leverage and influence DoD and Army R&D programs such as STOs and ATDs
 - STO CEROS: Radio Enabling Technologies & Networking Applications (RETA)
- Assess Technology and affordability through BAAs and SBRs

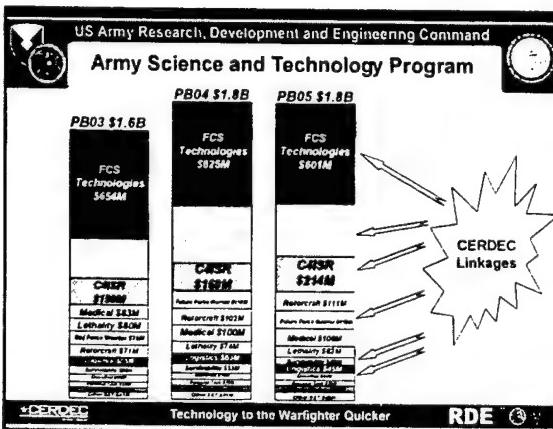
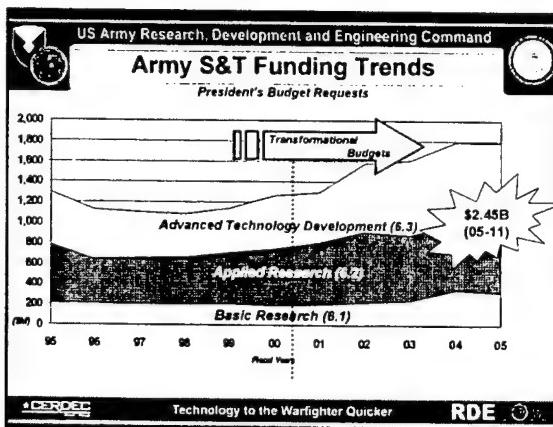
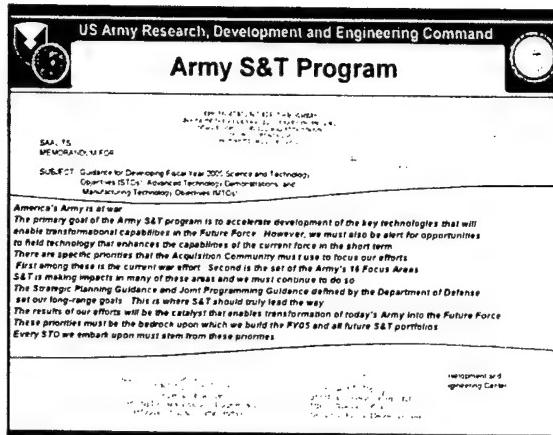
Initiated Efforts via CERDEC S&TCD Broad Agency Announcements

- Mid-High Power amplifier (MHPA): BAA Solicitation DAAB07-03-R-P650, Topic # S0404 "Software Defined Radio".
- Antenna for Mid-High Band: BAA Solicitation DAAB07-03-R-P650, Topic # S0405 "Antennas for Tactical and Strategic Military Communications".
- Schedule: Awards Made Mar-April 04
- Continue pursuit of additional technologies

Take-Aways

- TDS supports BAAs
- BAAs must provide usable products
- CERDEC developing a STO to support TDS
- Strong focus on third party development
 - Emphasis on expansion of the industrial base
- Strong focus on tech insertion
- Two points of entry
 - Cluster 1 TDS Working Group (PM JTRS C1 lead)
 - RETNA STO (CERDEC lead)





US Army Research, Development and Engineering Command

Battle Command Construct

Purpose: This Chunk Will Provide a Seamless On-the-move Information Network From the Strategic to the Tactical Level and Is the Critical Component to Seeing, Understanding and Acting First.

Products: Communications, Intelligent Agents and Decision Aids for the One Battle Command System That Enable Commanders to Plan and Execute Their Mission.

Payoff: Integration of UA/UE/Joint/Coalition/National Information Systems, Providing Right Information at the Right Time and Right Place to Enhance Objective Force Survivability and Effectiveness.

Value: \$29.5 (FY04)/\$141M (FY05-09)

RDE

US Army Research, Development and Engineering Command

Beyond Line of Sight Lethality

Purpose: Technologies in This Chunk Will Provide the Ability to Destroy the Enemy at Longer Ranges, With Greater Precision.

Products: Target Acquisition Sensor System Demonstrating 2nd Gen IR, Single Color, Shape Based AITD/R Algorithms and SWIR in a Ground to Ground Environment.

Payoff: Provides Combat Overmatch Capability to Identify Threat Targets Upon Detection Enhancing Freedom of Maneuver/Delay Enemy Freedom of Maneuver and Enhances Sensor to Shooter Linkages and Supports Layered Sensor Concept.

STO(s) Supporting: III.IIS.2003.05, IV.WP_2004.04

Value: \$14.6 (FY04) \$15.5M (FY05-07)

RDE

US Army Research, Development and Engineering Command

Non-Line of Sight Lethality

Purpose: Technologies in This Chunk Will Provide a Single System Capable of Multiple Ground-based Radar Missions (Air Defense, Field Artillery/Mortars/Rockets, Weapon Location, Fire Control and Air Traffic Control).

Products: Fully Tested Multi-mission Radar System Demonstrator And Man-portable Short Range Counter Mortar Radar (LCMR)

Payoff: Support Early Entry Forces With Single, Rapidly Deployable Sensor; Address Air and Missile Defense, ATC and Counter Mortar Requirements Simultaneously Thus Improving Force Lethality and Situational Awareness; Reduced Logistic Support by a Single Radar That Replaces Four Different Radar Systems

STO(s) Supporting: III.IIS.2001.01

Value: \$4.9M (FY04)/\$11.7M (FY05-06)

RDE

US Army Research, Development and Engineering Command

Maneuver Support



Purpose: Provide the Ability to Detect, Neutralize and Digitally Disseminate Mine and Minefield Locations.

Products: Detection Sensors, Software Algorithms, and Neutralization Techniques to Support Rate of Advance and Maneuverability Requirements on and Off-road.

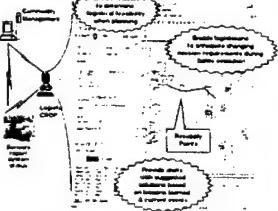
Payoff: Increased Vehicle and Soldier Survivability. Provides Increases in Rates-of-advance for Route Clearance and Minefield Reconnaissance Missions. Provides Bolt-on Operations Without Overpass Avoiding the Need for Specialized Vehicles.

Value: \$25.2M (FY04)/\$90.3M (FY05-09)

ACERDEC Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

Maneuver Sustainment



Purpose: This Chunk Will Provide Means to Manage the Transportation and Sustainment of Personnel and Materiel in Order to Support High OPTEMPO and Ready to Fight Requirements.

Products: Planning Tools for COA Analysis of Classes III, V, Maintenance, and Medical Service; Software Intelligent Agents for Execution Monitoring and Counteraction Recommendation; Sustainment Focused Computer Based Training Tools.

Payoff: Sustainment Analysis and Planning Integrated and Concurrent With Maneuver COA Generation.

STO(s) Supporting: IV.LG.2003.01
Value: \$13.4M (FY05-06)

ACERDEC Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

Mounted/Dismounted Maneuver



Purpose: This Chunk Will Provide the Objective Force Unsurpassed Mobility Over Operational Distances As an Integrated Combined Arms Unit. This Capability is Necessary If Objective Force Commanders Are to Maneuver Where and When They Desire, Without Interruption or Delay in Intent.

Products: Multi-spectral AITD and E/WIR AITD/AITR System for Evaluation in a Field Demo; Demonstration and Validation of Both Operational and Training PosiNav & Tracking Breadboards in a MOUT Environment.

Payoff: Superior Tactical Maneuverability in All Terrain and Weather As a Dismounted and Mounted Combined Arms Force.

Value: \$70.3M (FY04)/\$256.8M (FY05-09)

ACERDEC Technology to the Warfighter Quicker **RDE**

The advertisement features a large banner at the top with the text "US Army Research, Development and Engineering Command" and "Survivability". Below the banner is a photograph of a military aircraft flying over a landscape. The word "Survivability" is overlaid on the left side of the photo. To the right of the photo, there is descriptive text about the program's purpose and products, along with logos for CERDEC and RDE.

The collage consists of six black and white photographs arranged in a grid:

- Top Left: A view of a building labeled "VPS Facility – Ft. Belvoir".
- Top Middle: A view of a building labeled "VPS Facility – McAfee Center".
- Top Right: A view of a mobile unit labeled "Avionics Test Bed".
- Bottom Left: A view of a mobile unit labeled "FCS C2 VPS Facility – Building 2705".
- Bottom Middle: A view of a mobile unit labeled "Maneuver C2 Cell".
- Bottom Right: A view of a mobile unit labeled "Mobile VPS Facilities".

US Army Research, Development and Engineering Command

Rapid Prototyping Facilities

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Technology to the Warfighter Quicker

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T&E Assets and Facilities

Anechoic Chamber Facility – McAfee Center

Countermine Facility – Ft. Belvoir

Flight Test Facilities – Ft. Belvoir/Lakehurst

Field Test Facilities
Ft. Belvoir/Lakehurst/Ft. Dix

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S&T Near Term Investments

- Over the next POM CERDEC Will Deliver Technology to support Networking, Command and Control and Sensors
 - **Networking**
 - Small Unit Communications
 - Advanced Antennas
 - Tactical Wireless Network Assurance
 - Mobile Networking
 - Data Links
 - Bandwidth Management
 - **Command and Control**
 - Maneuver C2 Tools and Visualization Systems
 - Knowledge Management
 - Intelligent Agent Development and Application

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S&T Near Term Investments

- Sensors
 - Second Generation Unattended Ground Sensors
 - Distributed Aided Target Recognition
 - Advanced Soldier Vision Systems
 - Low Cost, Un-cooled Sensors
 - Thru Wall Sensing
 - Multi-mission Radar
 - Long Range SAR/MTI
 - Digital RF Tags
- Countermeasures
 - Countermine and Counter IED

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CERDEC Contract Opportunities

- Specific Business Area Opportunities
 - Space & Terrestrial Communications Dir.
 - Command & Control Dir.
 - Night Vision & Electronics Sensor Dir.
 - Intelligence & Information Warfare Dir.
- CERDEC Wide Opportunity
 - Small Business Innovation Research

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US Army Research, Development and Engineering Command

Wearable Antenna Integration

DEFINITION

- Apply wearable antenna prototypes to useable ensembles for dismounted soldier operational scenarios.
- Existing prototypes to integrate into existing and/or projected soldier ensembles.
- Characterization of the antenna transmit/receive properties after integration efforts.
- Testing to transmit and receive voice, data and video under operational scenarios may be included to determine actual properties (e.g., gain, bandwidth, etc.)

CONTRACT OPPORTUNITY

OBJECTIVE: Integrate antenna prototypes into soldier ensemble

CONTRACT TYPE: Firm Fix

ESTIMATED VALUE: \$300k-700k

KEY MILESTONES: BAA/RFP Released: 4Q FY04
Contract Award: 2Q FY05
Delivery: 2Q FY07

TECHNICAL CONTACT: Dr. John M. Tobias (732) 427-0221

ACQUISITION CONTACT: Kristina Weaver, (732) 427-1381

SOLICITATION #: BAA DAA807-03-R-P650, topic #S0405

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US Army Research, Development and Engineering Command

Antennas for XG Communications

DEFINITION

- Study, design and prototype broadband antennas to support XG (next Generation) communications and networking requirements.
- Antenna system will need to have very wide band capabilities or be rapidly adaptive over a broad range of the spectrum.
- May have to support multiple simultaneous or near-simultaneous data channels for adaptive information (e.g. handshaking) and/or power spectral density sensing.

CONTRACT OPPORTUNITY

OBJECTIVE Develop prototype antenna

CONTRACT TYPE Cost Plus

ESTIMATED VALUE \$500K-800K

KEY MILESTONES BAA/RFP Released: 4Q FY04
Contract Award: 2Q FY05
Delivery: 2Q FY06

TECHNICAL CONTACT Dr. John M. Tobolsky (732)427-0221
ACQUISITION CONTACT Kristin Weller (732)427-1361
SOLICITATION # BAADAAA907-03-R-PES0
Topics #S0405/S0424

TECHNICAL SPECIFICATIONS

- Frequency Range: 30-2500 MHz
- Flat gain curve over range
- Inputs: RF and JTRS Control
- RF Input Power: >50 Watts
- Maximize gain (≥ 10 dBi expected)
- Form Factor: Low profile/single antenna or array preferred

TECHNICAL CHALLENGES NEEDING MITIGATION

- Frequency invariance over range
- Single antenna/array implies nonresonant design
- Small form factor
- Fast response characteristics
- Gain

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Tactical Wireless Network Assurance (TWNA) STO

TECHNICAL CONCEPT

WARFIGHTER BENEFITS

- Prevent IW attacks from damaging mobile networks
- Maintain trust/confidence in battlefield information
- Reduce system and network vulnerabilities

Pacing Technologies

Dynamic Node Ad-hoc Control
Mobile Self & Self aware Protection
Wireless Intrusion Detection
Network Security Management
Mobile Code and Agent Authentication

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US Army Research, Development and Engineering Command

Tactical Wireless Network Assurance (TWNA) STO

DEFINITION

- Seeking to leverage research and development technology that can prevent unauthorized access to mobile networks and protect critical mobile digital communications and information networks and systems in a C4ISTAF force.
- The goal is to demonstrate the TWNA technology in a relevant FCS/FIP environment.
- Ability to protect Mobile Ad-hoc Networks (MANET) must be demonstrated in several areas such as distributed services, access control and distributed processing, distributed authentication, distributed key management, code and agent identification, tactical public key infrastructure and secure communication.
- Will allow the Warfighter to maintain an advantage over the increasing IW threat from network intruders, malicious insiders, or the over-the-counter threats.

CONTRACT OPPORTUNITY

OBJECTIVE Develop and transition wireless network protection technology to the Warfighter. This includes the ability to defend the air, land, and space domains from IW attacks. This is the Air, Land, Space, and Cyberspace dimension of the Warfighter Information Network - Tactical (WIN-T) and Future.

CONTRACT TYPE Cost Plus F and Fee

ESTIMATED VALUE \$1.2M-1.8M per year

KEY MILESTONES

- Proposed to commence April 2004. May of each fiscal year (JFM-OE) for consideration within next two years (FY05-07).
- Delivery of 200 nodes by 2005
- Delivery of 2000 nodes by 2006

TECHNICAL CONTACT Stephen Liles (732)427-0205
ACQUISITION CONTACT Kristin Weller (732)427-1361
SOLICITATION # BAADAAA907-03-R-PES0
Topics #S0405/S0424

TECHNICAL SPECIFICATIONS

- Prevent Unauthorized Access
 - Goal: 200 Node Ad-hoc Mobile Net
- Prevent Database Corruption
 - Goal: Prevent 99% of Unauthorized Modifications
- Wireless Intrusion Detection
 - Goal: 99% detection
- Intrusion Response - 1 Hour
- Affordability
 - Goal 1: Leveraging cost reduce by 85%
 - Goal 2: Development cost reduce by 40%

TECHNICAL CHALLENGES NEEDING MITIGATION

- Dynamic Ad-Hoc Networking
 - Dynamic MANETs are mobile nodes and mobile infrastructure (moving, security, configuration)
 - No concentration points or static logic can be used for security or performance
 - Centralized or distributed network or security services
 - Deployment of complex and robust security mechanisms
 - Interoperability challenges caused by mobile/mobility changes
- Task Based Security
 - Normal user behavior has many characteristics due to mobility of network and dynamic service provision
 - Normal user behavior makes nodes prone to enemy capture
- Resource Constraints
 - Bandwidth

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Affordable SDR Components for JTRS Cluster 5

Embedded JTRS Cluster 5 SFF for FCS UA Network Communications

Common SDR Core Transceiver

Modular

Scaleable

Reusable

FCS UA/JTRS Technology Maturity Assessment Cluster 5 Risk Mitigation

Payoffs

- Affordable Life Cycle Cost
 - Unit production
 - Operating & support
- Operational Readiness
 - Multi-channel performance
 - Embedded form factor/weight
 - Energy efficiency
 - Environmental
- Enhanced lethality
 - sensor-to-shooter

Improved mobility

Seamless network communications

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US Army Research, Development and Engineering Command

Affordable SDR Components for JTRS Cluster 5

DEFINITION

The SDR MTO is essential risk mitigation for Joint Tactical Radio System (JTRS) Cluster 5 to ensure that the Small Form Fit (SFF) configurations meet Size, Weight and Power (SWAP) and Unit Production Cost (UPC) requirements.

SDR MTO is seeking to develop:

- Low cost common SDR core transceiver prototypes (RFPE, BB processor) for JTRS radios across USA (FY06-07)
- Executive manufacturing qualification test methods and production processes, M&S and laboratory validated (WRL 7)

CONTRACT OPPORTUNITY

OBJECTIVE: Develop low cost common SDR core transceiver prototypes (RFPE, BB processor) for JTRS USA (FY06-07). The contract will include design, development, test methods and production processes validated using modeling & simulation and laboratory testing.

CONTRACT TYPE: Contract - BAA

ESTIMATED VALUE: FY06-09 Multiple 1 year contracts from \$50M - \$2 M

KEY MILESTONES:

BAA/RFP Released:	4Q FY04
Contract Award:	1Q FY05
Prototypes Delivered:	Varied Intervals

TECHNICAL CONTACT: Luis Ruiz (202) 707-4644
ACQUISITION CONTACT: Tom Weller (202) 437-1381
SOLICITATION #: BAA DAAG07-04-B-P090, topic #50402

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MARCON-i

MARCON-i SFC 05-05

Multi-domain Situational Awareness, Robotic Journey Planning for on-the-Move Networks

Auto-Join and Leave

Low Latency

High Capacity

Interoperability

Enhanced Coverage

Capacity to Increase Number of Simultaneous Handovers

Multi-Dimensional Access for Terrestrial and Space-based Networking

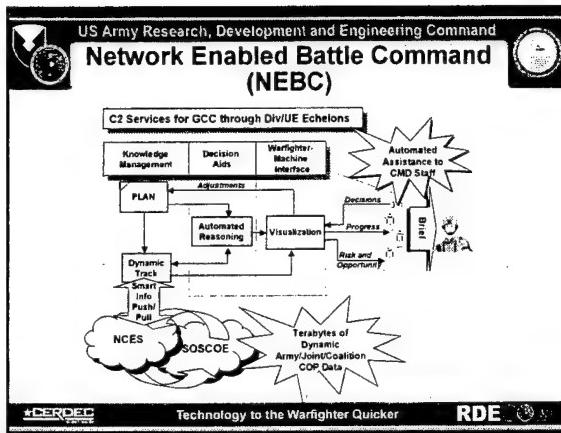
***CERDEC**

RDE

 <p>US Army Research, Development and Engineering Command</p>	<h1>MARCON-i</h1>							
DEFINITION								
<p>The Multi-dimensional, Assured, Robust Communications for an On-the-Move Network (MARCON-i) Science and Technology Objective (STO) is targeting technology development in two areas:</p> <ul style="list-style-type: none"> 1) Automated link selection algorithms 2) Directional networking technologies 								
CONTRACT OPPORTUNITY								
<p>OBJECTIVE: Multi-dimensional, Assured, Robust Communications for an On-the-Move Network (MARCON-i)</p> <p>Automotive Link Selection: To develop, implement and test link selection algorithms based on current and future operational requirements.</p> <p>Directional Networking: To develop, implement and test a set of high capacity, directional networking technologies that support both terrestrial and aerial platforms. The target range for the system is 0-100 km, with an operating life of 10 years, and an average 100 nodes/km².</p> <p>Contract Type: Cost-Plus Fixed Price (CP-FP) or Firm Fixed Price (FFP).</p> <p>ESTIMATED VALUE: \$100 million (CP-FP) or \$150 million (FFP).</p> <p>KEY MILESTONES:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>BAA Received</td> <td>May 14, 2004</td> </tr> <tr> <td>BAA Response Deadline</td> <td>May 14, 2004</td> </tr> <tr> <td>Proposed Contract Award</td> <td>July 1, 2004</td> </tr> </table> <p>TECHNICAL CONTACT: Lynn Mazzoni (703) 533-0278</p> <p>ACQUISITION CONTACT: Veronique Rognon (703) 533-2448</p> <p>SOLICITATION NUMBER: BAA DAAD10-04-B-0014 (CP-FP) or BAA DAAD10-04-B-0015 (FFP)</p>			BAA Received	May 14, 2004	BAA Response Deadline	May 14, 2004	Proposed Contract Award	July 1, 2004
BAA Received	May 14, 2004							
BAA Response Deadline	May 14, 2004							
Proposed Contract Award	July 1, 2004							
TECHNICAL SPECIFICATIONS								
<ul style="list-style-type: none"> - Automatic link selection algorithms <ul style="list-style-type: none"> - Proactively allocate use of multiple transmission paths - Bypass network outages and congestion - Provide for dynamic path failure recovery - Increase system reliability/availability - Directional networking technologies <ul style="list-style-type: none"> - Directional channel access mechanisms to exploit the use of agile directional antennas - Provide increased network capacity and spectral reuse - Provide increased Anti-Jam / Low Probability of Intercept (AJ/LPI) 								
TECHNICAL CHALLENGES NEEDING MITIGATION								
<ul style="list-style-type: none"> - Dynamic use of waveform characteristics to accurately predict network conditions/usage - Appropriate trade-off, considering affordability of protocol approach versus antenna performance - Multicast routing in directional networks: integrating multicasting with antenna switching or beamforming - Neighbor discovery process in a directional networks considering both LPVPA performance versus concurrency 								
 <p>Technology to the Warfighter Quicker</p>								

The advertisement features a top banner with the US Army Research, Development and Engineering Command logo and text. Below it is a large title 'Affordable Phase Shifters for Phased Arrays MTO'. To the left is a photograph of a large-scale phased array antenna system. To the right is a close-up image of a MEMS device labeled 'MEMS' above it. A legend on the right side states: '• Pictures are representative only. Current state-of-the-art is proprietary / patent(s) pending.'

<p>US Army Research, Development and Engineering Command</p> <h2>Affordable Phase Shifters for Phased Arrays MTO</h2> <p>DEFINITION</p> <ul style="list-style-type: none"> - Provide the means to achieve high data rate on-the-move communications for the Army's Future Combat Systems (FCS) and Transformational Communications (TC) - Minimize cost by reducing the high cost of packaged Membrane Phase Shifters (MPS) and Micro Electro Mechanical System (MEMS) phase shifters (\$50 - 100) - Micro Electro Mechanical Switch (MEMS) and Ferroelectric (FE) phase shifter technologies developed by industry will be used in MTOs, making affordable Phased Arrays a reality - Optimizes manufacturing processes for future 20/24/42/44/46 MEMS and FE devices to produce low loss, low cost, ready phase shifters with a total packaged cost of <\$10 <p>CONTRACT OPPORTUNITY</p> <ul style="list-style-type: none"> - OBJECTIVE: 20/30/44/46 Phase Shifters > \$10/ea - CONTRACT TYPE: Cost Plus Fixed Fee - ESTIMATED VALUE: MEMS - \$1-24/ly (FY08-09) - KEY MILESTONES: MEMS solicitation: 30 FY08 MEMS award: 10 FY09 - TECHNICAL CONTACTS: Louis Correll & John Nielsen (732) 532-9210 - ACQUISITION CONTACT: Kristra Weaver (732) 427-1381 - SOLICITATION #: RFP # - DAAB07-03-R-0450 Topic: SA0401 (QD FY08) 	<p>TECHNICAL SPECIFICATIONS</p> <ul style="list-style-type: none"> - Up to \$10M over 4 years (FY05-08) - MEMS - 1 contract, up to \$3M (FY06-08) - Manufacturing Technology Objective <ul style="list-style-type: none"> → Optimizes manufacturing processes for future (TRUMPF) 24-47+ phase shifter device technology - Improve loss, yield, reliability and cost <p>TECHNICAL CHALLENGES NEEDING MITIGATION</p> <p>MEMS</p> <ul style="list-style-type: none"> - Increasing Reliability to > 1012 cycles - Eliminating friction / dielectric charging - Power handling - Increasing yield to 70% - Hermetic encapsulation - Size reduction - < \$10 ea
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US Army Research, Development and Engineering Command

Network Enabled Battle Command (NEBC)

DEFINITION

This program will develop and demonstrate Command and Control (C2) and service-oriented applications that support the near-term development of the Future Force Unit of Employment (UE) Battle Command capability. In addition, near-term capabilities that address Current Force needs will be integrated into the Army's Network Centric System (NCES/GE). Focus areas include knowledge management, decision support and visualization services. These capabilities will allow for accelerated and improved decision making, increased operational tempo, and enhanced Army/Joint/Coalition C2.

CONTRACT OPPORTUNITY

OBJECTIVE: Develop and demonstrate C2 software applications that support the Army's future networked distributed command and control system. The Future Force UE Battle Command capability, Near-term capabilities that address Current Force needs will be integrated into the Army's Network Centric System (NCES/GE). Focus areas include knowledge management, decision support and visualization services.

CONTRACT NUMBER: N/A

ESTIMATED VALUE: Anticipate multiple awards each in excess of \$100M.

KEY MILESTONES:

- 2002 Software transition to ABCS-GE and TRADOC Future Force
- 2003 Software enhancement to ABCS-GE and TRADOC Future Force
- 2004 Software enhancement to ABCS-GE and TRADOC Future Force
- 2005 Software service transition to NCES/GE
- 2008 Software service transition to NCES/GE -ibernation of NCES/SOSCOE

TECHNICAL CONTACT: Ken Bean, STO Manager (733) 427-3726

ACQUISITION CONTACT: Jerome Walker (733) 427-3351

TECHNICAL SPECIFICATIONS

- Supports Current Force needs by supporting the integration of "few humans" distributed command and control systems to Operation Iraqi Freedom (OIF).
- Supports Training and Doctrine Command (TRADOC) Unit of Employment (UE) C2 concept development by providing C2 applications to support federated experimentation.
- Supports the development of the Joint Command and Control (JC2) system by transitioning functional requirements developed by maturing and integrating techniques for Joint/Coalition decision support services, decision support services, and visualization services.
- Addresses the risk areas of Network Centric Enterprise Services (NCES) and the System of Systems Coalition Environment (SOSCOE) integration to help ensure seamless operations between UE and UA.

TECHNICAL CHALLENGES NEEDING MITIGATION

- Limited bandwidth availability in tactical environment
- Net-Centric C2 services, predictive analysis tools, and Intelligent Agent technology base is immature
- Aggressive delivery/demonstration schedule

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US Army Research, Development and Engineering Command

Future Force Power Systems

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Future Force Power Systems

DEFINITION

- Provide tactical power sources for both soldier and mobile power users
- Decrease the logistics burden associated with the deployment and sustainment of tactical power
- Investigate both Stirling Engines and fuel cells for low-noise applications

CONTRACT OPPORTUNITY

- OBJECTIVE:** Deliver demonstration units showing improvements in both performance and level of development over current power systems.
- CONTRACT TYPE:** Fixed Price
- ESTIMATED VALUE:** Acquisition \$3M/yr
- KEY MILESTONES:** White Papers Accepted - Oct 04
Evaluation Complete - Dec 04
Award - Jan 05
- TECHNICAL CONTACT:** Cdr-Baton (701) 704-1955
(bbr@us.army.mil)
- ACQUISITION CONTACT:** Kristen Waeber (732) 427-1381
- SOLICITATION:** War RFI & TBC

TECHNICAL SPECIFICATIONS

- Soldier hybrid system to enable 72 hour missions without resupply
- Stand-alone field chargers
- High energy density/high recharge rate rechargeable batteries
- Small quiet mobile power sources
- Mobile cogeneration power systems with heat-driven cooling
- Applied power management with both soldier and Tactical Operation Center applications

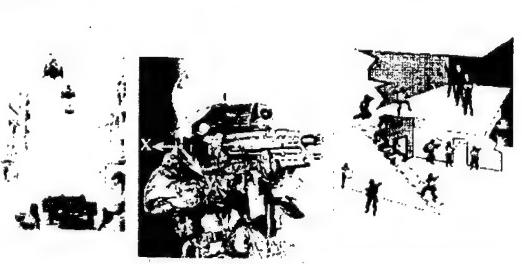
TECHNICAL CHALLENGES NEEDING MITIGATION

- Delivery Schedule
- Operating Temperature Range
- Noise
- Weight
- Cost

Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

Advanced Pos/Nav and Tracking



DEFINITION

- To develop positioning, navigation and tracking sensor/integration technologies in support of operational and training requirements for mounted and dismounted warfighters
- Advanced Pos/Nav and Tracking will provide robust and accurate Position, Velocity and Time (PVT) information for the Objective Force

CONTRACT OPPORTUNITY

- OBJECTIVE:** Develop and demonstrate technologies to support the Objective Force's mission needs in the areas of dismounted and mounted warfighter position, velocity and time (PVT) information.
- CONTRACT TYPE:** Firm Fixed Price
- ESTIMATED VALUE:** Acquisition \$1M/yr
- KEY MILESTONES:** White Papers Accepted - Oct 04
Evaluation Complete - Dec 04
Award - Jan 05

TECHNICAL SPECIFICATIONS

- Operate in all environments (building interiors, urban and subterranean locations and under dense foliage)
- Integration and Demonstration of Pos/Nav and Tracking Technologies including:
 - Near/Far Assisted GPS
 - NF for personal User Level Integrated Communications Environment (SLICE)
 - Micro Electro-Mechanical (MEMS) Inertial Integration with GPS

TECHNICAL CHALLENGES NEEDING MITIGATION

- Robust and accurate position, velocity and time (PVT) information in urban/obstructed and other degraded signal environments
- Integration/Demonstration of multiple sensors for a dismounted soldier in an urban environment
- Outperform today's MEMS Inertial Measurement Units (IMU) data acquisition and processing cost
- Replace the current laser scoring system Multiple Integrated Laser Engagement System (MILES) / Air-Ground Engagement System (AGES)

Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

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DEFINITION

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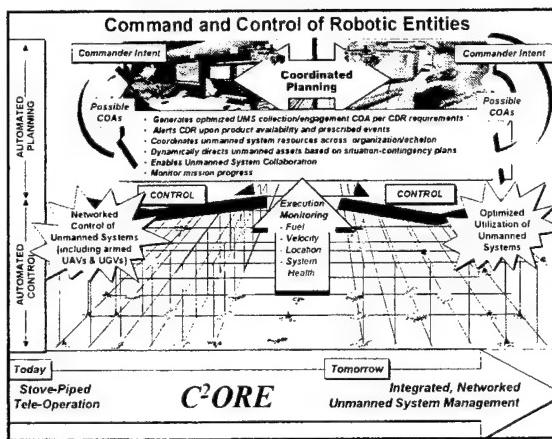
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Technology to the Warfighter Quicker **RDE**



US Army Research, Development and Engineering Command

C²ORE

DEFINITION

Command and Control of Robotic Entities (CORE)

C²ORE will develop and demonstrate an integrated networked battle management capability for unmanned systems. This will be accomplished via a System of System (SoS) integration of UnManned System (UMS) technology from across RDECOM and development of a suite of System of System Common Operating Environment (SoS-COE) compliant C2 decision aids and services.

CONTRACT OPPORTUNITY

OBJECTIVE: C²ORE will develop and demonstrate an integrated networked battle management capability for unmanned systems. This will be accomplished via a System of System (SoS) integration of UnManned System (UMS) technology from across RDECOM and development of a suite of System of System Common Operating Environment (SoS-COE) compliant C2 decision aids and services.

CONTRACT TYPE: Firm Fixed Price (FFP) with Cost Plus Support: BAA for Software Development

ESTIMATED VALUE: TAM 1.8MM, FFP 1.7MM

KEY MILESTONES:

- TAM Contract PFR and Award: 1QF10
- BAA FFR: 1QF10
- BAA Award: 2QF10

TECHNICAL CONTACT: Kristine Weaver (732) 427-6200

ACQUISITION CONTACT: Kristine Weaver (732) 427-1381

SOLICITATION #: RFI # TEC

RDECOM

Technology to the Warfighter Quicker

US Army Research, Development and Engineering Command

Minefield Neutralization for Assured Mobility

DEFINITION

MULE – Multifunction Utility/Logistics Equipment Vehicle

Minefield Neutralization for Assured Mobility will develop the technology for a precision neutralization capability to rapidly breach antitank (AT) minefields from standoffs of 500m to 25km and produce a prototype capability for the Unit of Action as an organic MULE payload scalable to the threat.

CONTRACT OPPORTUNITY

OBJECTIVE: Ensure maximum warfighter standoff and freedom of maneuver flexibility by developing selectable cleared lane orientation and swing.

CONTRACT TYPE: Firm Fixed Price (FFP) Multiple Awards: Multiple Phases

KEY MILESTONES:

- Feb-April: Analysis/Design: Summer FY04
- Late Nov 04: Initial Briefing on program objectives
- 10-page executive bid document
- Request for proposal in January FY05
- 2QFY05 award contract
- 2QFY05 start of work

TECHNICAL CONTACT: Noel Wight (703) 704-2461

ACQUISITION CONTACT: Kristine Weaver (732) 427-1381

SOLICITATION #: RFI # TEC

RDECOM

Technology to the Warfighter Quicker

US Army Research, Development and Engineering Command

TEFOS

DEFINITION

Technical, Engineering, Fabrication and Operations Support Contract (TEFOS) for Information and Intelligence, Warfare Directorate (IDWD)

The proposed structure will provide support for the IDW Directorate (and any associated subordinate units) in the areas of: Technical, Engineering, Fabrication and Operations Support, Program Management, and Customer Service for systems under TEFOS. The IDW Directorate (and any associated subordinate units) will have a local range of technical disciplines.

CONTRACT OPPORTUNITY

- CONTRACT TYPE:** IDIQ Time & Materials Type Contract with the option of Fixed Price Line Items.
- ESTIMATED VALUE:** Approx \$ 500,000,000 - if all options are exercised.
- KEY MILESTONES:** Award - March 2005
- TECHNICAL CONTACT:** James McDonald, (732) 427-5802
- ACQUISITION CONTACT:** Kristina Weaver, (732) 427-1381
- SOLICITATION # or RFQ #:** TBD

TECHNICAL SPECIFICATIONS

- Basis Value: Competitive multiple-year award will be based on best overall value to the Government.
- In definite Delivery, Indefinite Quantity Type Contract (IDIQ).
- 5 year OMNIBUS Support Contract.
- Base Year with 4 Option Years.
- Option to Issue Time and Material or Fixed Price task orders.

TECHNICAL CHALLENGES NEEDING MITIGATION

- A II personnel must be TS/SCI cleared.
- B broad range of capabilities required.
- C performance Based Contracting: Acquisition will be structured around the purpose of the work as opposed to either the manner by which the work is performed or broad and imprecise statements of work.

Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

TROJAN SPIRIT Block II P3I

DEFINITION

The TROJAN Special Purpose Integrated Remote Intelligence Terminal (SPIRIT), Block II, Pre-Planned Product Improvement (P3I) Program is an upgrade to the AN/TSG-190(V) to extend its lifecycle until replacement by the Signal Corps Warfighter Information Network (WIN).

CONTRACT OPPORTUNITY

- OBJECTIVE:** Procure SATCOM Upgrade Kit for the AN/TSG-190(V) TROJAN SPIRIT II System.
- CONTRACT TYPE:** FFP
- ESTIMATED VALUE:** \$25M
- KEY MILESTONES:** RFP I OFFY05 CONTRACT Award 2-QFY05
- TECHNICAL CONTACT:** Ken Chaney (732) 427-7102
- ACQUISITION CONTACT:** Kristina Weaver, (732) 427-1381
- SOLICITATION # or RFQ #:** TBD

TECHNICAL SPECIFICATIONS

- Contract for Satellite Communications (SATCOM) Hardware Kits
- Firm-Fixed Price Contract
- Basic plus 4 Options
- Up to 52 Kits to be procured

TECHNICAL CHALLENGES NEEDING MITIGATION

Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

Engineering Support

DEFINITION

- Information Assurance Information Systems Security Engineering Support
- Ensure security functions and safeguards are effectively integrated into the total system engineering effort
- Support FWD Information System Security Manager (ISSM) and Information Assurance Warfare (IAW) Systems in accordance with the following:

 - Director of Central Intelligence Directive (DCID) 6/3
 - NSAC/ISS Information System Certification and Accreditation Process (ISCAP) Guide

CONTRACT OPPORTUNITY

- OBJECTIVE:** To provide oversight and support for software and hardware architecture and development for intensive information and network management systems development
- CONTRACT TYPE:** TAM
- ESTIMATED VALUE:** \$200K/year
- KEY MILESTONES:** Award 2-QFY05
- TECHNICAL CONTACT:** Karen Hornberger (732) 427-5394
- ACQUISITION CONTACT:** Kristina Weaver (732) 427-1381
- SOLICITATION # or RFQ #:** TBD

TECHNICAL SPECIFICATIONS

- Provide Technical Support that includes
 - TS/SCI clearance and personnel in DCID 6/3 and NSAC/ISS
 - TAM/Contractor liaison
 - Engineering Change Control
 - Evaluation of system design/selections per DCID 6/3 and security requirements
 - Computer security, information security, Operating Systems, Public Key Infrastructure, Cryptographic modules, and other security mechanisms
 - Baseline standards for authorizing systems security posture and configuration
 - Effect and Impact of NSAC/ISS Configuration and Accreditation Process
 - Write and evaluate test and verify configuration documents and Test Plan
 - Participate in User Training, defenses and formal Security Test and Evaluation
 - Evaluate system shortcomings and suggest modifications to meet security requirements

TECHNICAL CHALLENGES NEEDING MITIGATION

- Obtain TS/SI security clearance
- Obtain ISSE Certification

Technology to the Warfighter Quicker **RDE**

US Army Research, Development and Engineering Command

Fusion Supporting Multi-INT ISR

DEFINITION

- Develop an all-source information fusion architecture for integrating information from multiple intelligence sources including imagery and non-imagery data.
- Design, develop, test and demonstrate the Fusion of of ISR sensor data.

CONTRACT OPPORTUNITY

- OBJECTIVE:** To develop an advanced knowledge generation and exploitation capability to answer the war fighting commander's intelligence requirements (IR) thereby enabling the force to see and understand at a rate supporting tactical agility concepts of the Objective Force
- CONTRACT TYPE:** Fixed Price
- ESTIMATED VALUE:** \$7M (FY 05-FY 08)
- KEY MILESTONES:** Possible RFP in Q1/05
- TECHNICAL CONTACT:** Hai Phu, (732) 427-6504
- ACQUISITION CONTACT:** Kristina Wewer, (732) 427-1381
- SOLICITATION # or RFQ #:** TBD

*CERDEC Technology to the Warfighter Quicker RDE

US Army Research, Development and Engineering Command

I2WD BAA

DEFINITION

The Intelligence and Information Warfare Directorate Broad Agency Announcement (BAA) is an expression of interest only.

THE BAA DOES NOT COMMIT the government to make an award, or pay preparation costs, generated in response to it.

CONTRACT OPPORTUNITY

- OBJECTIVE:** Streamline Contracting Vehicles Supporting I2WD Technical Requirements
- CONTRACT TYPE:** Cost-Plus-Fixed-Fee
- ESTIMATED VALUE:** No Delivery Value Limit
- KEY MILESTONES:** 1 October 2004 Award Date
- TECHNICAL CONTACT:** Steven Wallner, (732) 427-4091
- ACQUISITION CONTACT:** Mary Paterno-Mihalko, (732) 532-3992
- SOLICITATION # or RFQ #:** TBD

*CERDEC Technology to the Warfighter Quicker RDE

US Army Research, Development and Engineering Command

SMALL BUSINESS INNOVATION RESEARCH (SBIR)

SMALL BUSINESS INNOVATION RESEARCH

FY04 PROGRAM

- 44 Topics published in the DoD 03.2 Program Solicitation
- 854 Phase I Proposals were submitted against topics
- 62 Phase I Proposals were selected for award
- 7% of all proposals submitted
- 41 Phase II Proposals were awarded this year
- 63% of all Phase I proposals awarded
- Since inception in 1985, CERDEC has won 9 annual Phase II Quality Awards

PHASE III SUCCESS STORY

Automated Intelligence Analysis Team Austin Info Systems

Impact:

- Selected to provide the Situation Understanding Package for the Future Combat System (FCS) Phase III
- Selected as one of Austin, Texas' 50 Best Places to Work in Business for four consecutive years
- Produced a commercially available intelligent search & retrieval tool known as AISS
- Provides an enterprise search agent to find relevant documents, organize results, supports querying info from external sources, extracts key concepts in plain & technical language, and commands the user to search for sets of info

CONTRACT OPPORTUNITY

- OBJECTIVE:** To stimulate technological innovation, strengthen role of small business in DoD R&D needs, foster & encourage participation by minority/disadvantaged persons, increase commercial application of DoD supported research in R&D programs
- CONTRACT TYPE:** Firm Fixed Price (FFP)
- ESTIMATED VALUE:** \$5 OM
- KEY MILESTONES:** (Phase I)
 - Program Start: 3 May 2004
 - Solicitation Opens: 1 July 2004
 - Small Business Award: 13 December 2004
 - Contract Award: 13 December 2004
- PROGRAM CONTACT:** Suzanne Weeks, (732) 427-3275
- ACQUISITION CONTACT:** Robert Galvin, (732) 532-5562

*CERDEC Technology to the Warfighter Quicker RDE



PEO EIS Contract Opportunities

Art Reif
Deputy Project Manager
Defense Communications and Army Transmission Systems (DCATS)
Arthur.Reif@us.army.mil
(732)532-5517, DSN 992-5517
DD MMM 2004



PEO EIS

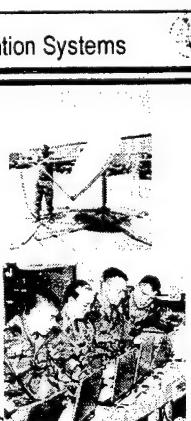
Outline

- PEO EIS Overview
- PM DCATS Mission
- Contract Opportunities
 - Multiband Enterprise Terminal
 - DoD Standard SATCOM Internet Protocol (IP) Modem

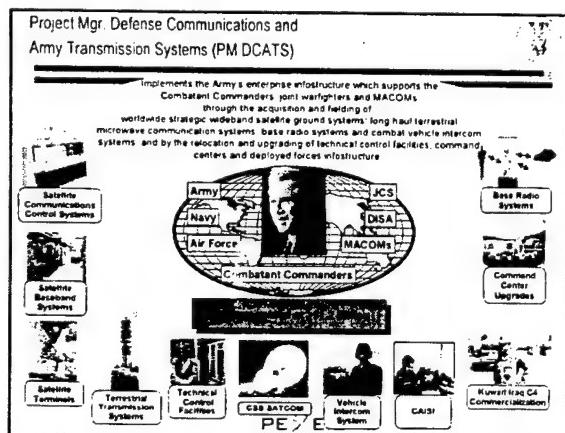
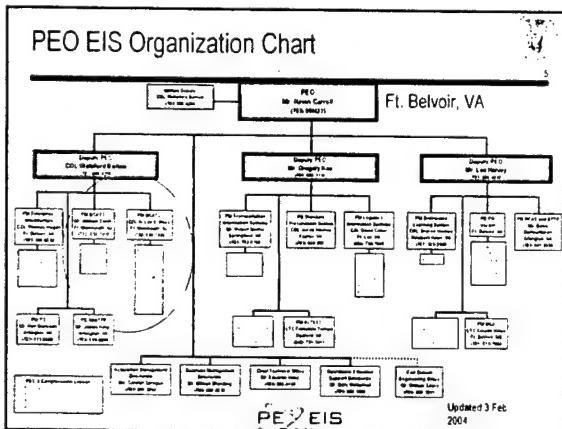
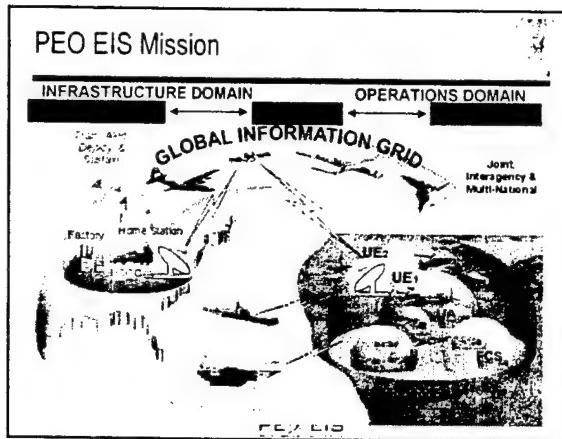
PEO EIS

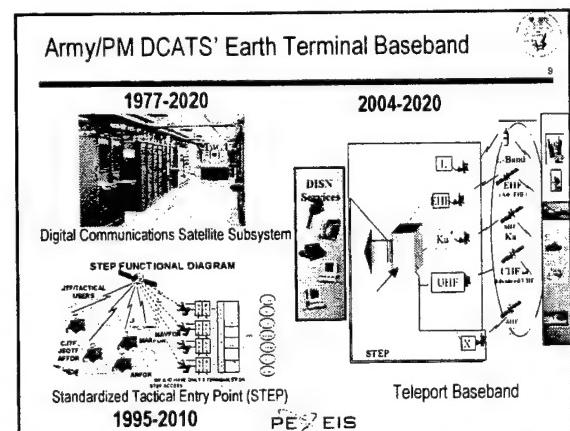
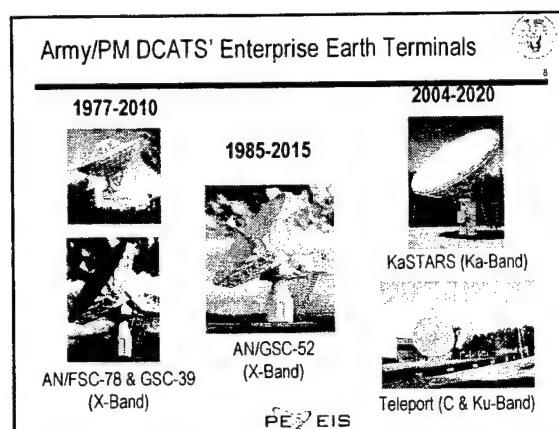
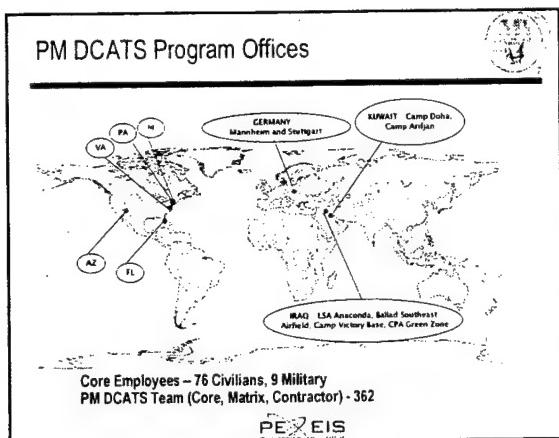
We are PEO Enterprise Information Systems

- Provide DoD, the Army and other federal agencies with network-centric, knowledge-based business and combat service support solutions.
- Implement Army's Enterprise infrastructure & business systems which support Combatant Commanders
- Provide Automated Systems which:
 - Assist with the accession and training of our Soldiers,
 - Track the Army's personnel
 - Provide and maintain the Warfighter's equipment
 - Plan the movement of their supplies and assets.

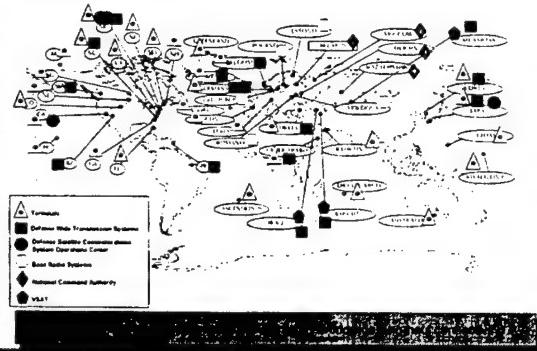


PEO EIS



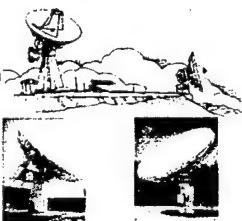


PM DCATS Worldwide Mission



Multiband Enterprise Terminal (MET)

- V(1) – X/Ka Band
- V(2) – Ka/EHF Band
- Supports Internet Protocol (IP) and Dedicated Circuits
- Capable of High Speed Interconnectivity to Global Information Grid (GIG)
- Critical Reachback Capability for the Warfighter



PE EIS

MET Risk Mitigation Phase

- FY06 - FY08
- Low Cost Component Development and Experimentation
- Risk Mitigation Candidates
 - Simultaneous X/Ka Band
 - Antenna Feed Horn
 - Frequency Converters
 - Solid State Power Amplifiers
 - JTRS/SCA Compliance
 - Modem Waveform Developed by Joint Tactical Community
 - Ported to any SATCOM System General Purpose Processor
 - All Digital SATCOM Receiver
 - Remote Control – Minimize Need for Operator

PE EIS

MET Full Rate Production Phase

- FY09 – FY20
- V(1) X/Ka Band
 - Supports Wideband Gapfiller Satellite Constellation
 - Replace FSC-78, GSC-39, GSC-52, KaSTARS at end of life
- V(2) EHF/Ka Band
 - Teleport for Transformational Satellite Constellation
- Contract Requirements
 - Prototype
 - Test
 - Production Quantity – 79 Terminals
 - Install 8 – 10 per year
 - Spares
 - Contractor Depot

PE~~EIS~~ EIS

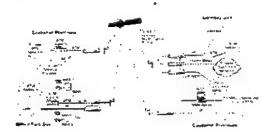
Multiband Enterprise Terminal (MET)

- OBJECTIVE: Develop and Procure X/Ka & Ka/EHF SATCOM Earth Terminals
- CONTRACT TYPE: TBD
- Risk Mitigation Phase
 - FY05-08
 - Contract Value - \$4.8M
- Full Production Phase:
 - FY09-FY20
 - Contract Value - \$100 - \$300M
- TECHNICAL CONTACT: Art Reiff, (732) 532-5517
- ACQUISITION CONTACT: TBD
- SOLICITATION # or RFQ #: TBD

PE~~EIS~~ EIS

DoD Standard IP Modem

- Provide Standard Internet Protocol (IP) based Bandwidth on Demand Capability for Wideband MILSATCOM
 - Efficient use of Satellite Bandwidth
 - Mesh and/or Hub-Spoke Topology
- OSD/DISA Publishing a Transponded SATCOM IP Modem Functional Requirements Document - June 2004



PE~~EIS~~ EIS

PM DCATS Proposed Procurement Approach

■ One Contract, Three Phases

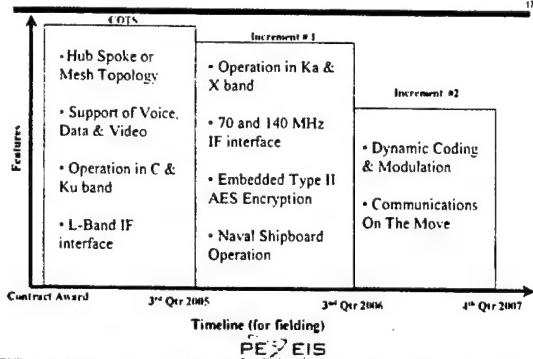
- Phase I – Purchase Commercial off the Shelf (COTS) Units
- Phase II – Engineer and Upgrade COTS Units with Increment #1 Capability (Minimum DoD Standard Features)
- Phase III – Engineer and Upgrade Units with Increment #2 Capability (Full DoD Standard Features)

■ DoD Benefits

- Quick procurement that satisfies user needs
- Cost effective & early implementation
- Interoperability - DoD Std Modem
- A solution that meets the requirements of the community

PE EIS

Proposed IP Modem Roadmap



DoD Standard IP Modem

- OBJECTIVE: Procure Commercial Off-the-Shelf IP Modem and Control System Capable of Upgrade to DoD Standard
- CONTRACT TYPE: Firm Fixed Price, with T&M
- Contract Value - \$20-50M
- Major Milestones:
 - Contract Award – May 2005
 - COTS Fielding – Aug 2005
 - DoD Standard Modem Increment #1 Fielding - 2006
 - DoD Standard Modem Increment #2 Fielding - 2007
- TECHNICAL CONTACT: Art Reiff, (732) 532-5517
- ACQUISITION CONTACT: Susan Stroud, (732) 532-1109
- SOLICITATION # or RFQ #: TBD

PE EIS

PEO EIS Contract Opportunities



19

- Art Reiff
- PEO EIS, PM DCATS, Deputy Project Manager
- Phone: (732)532-5517
- Email: Arthur.Reiff@us.army.mil
- PEO EIS Web Page: <http://www.eis.army.mil>



GUEST SPEAKER

MAJOR GENERAL MARILYN A. QUAGLIOTTI

**VICE DIRECTOR
DEFENSE INFORMATION SYSTEMS AGENCY**



Total Engineering and Integration Services (TEIS) Recompete



Craig Engel
USAISEC Critical Skills Expert
(520) 538-3172
Craig Engel1@us.army.mil

CECOM Bottom Line: THE WARFIGHTER

1



Total Engineering and Integration Services (TEIS) Recompete



DEFINITION

Information systems engineering and information technology support services to USAISEC and other federal agencies worldwide. The services will include engineering related activities in support of all aspects of information and communication systems. Support will be required for the full life cycle of USAISEC projects to include planning, design, development, engineering, implementation, procurement, logistics, evaluation, sustainment and ancillary services.

CECOM Bottom Line: THE WARFIGHTER

2



Total Engineering and Integration Services (TEIS) Recompete



CHARACTERISTICS

- Indefinite Delivery Indefinite Quantity
- Firm Fixed Price Labor Categories
- Cost Reimbursable Line Items
- Performance Based Attributes
- CONUS and OCONUS Performance

CECOM Bottom Line: THE WARFIGHTER

3



Total Engineering and Integration Services (TEIS) Recompete

STATUS/PROGRAM DIRECTION

KEY MILESTONES:

- Draft RFP Released on the IBOP April 2, 2004
- Pre-Solicitation Conference Held April 23, 2004
- Final RFP Anticipated October 4, 2004
- Anticipated Award January 31, 2005

CECOM Bottom Line: THE WARFIGHTER

4



Total Engineering and Integration Services (TEIS) Recompete

CHALLENGES

- RECRUITMENT AND RETENTION OF LABOR
- USAISEC'S CHANGING MISSION
- ORGANIZATIONAL CONFLICT OF INTEREST

CECOM Bottom Line: THE WARFIGHTER

5

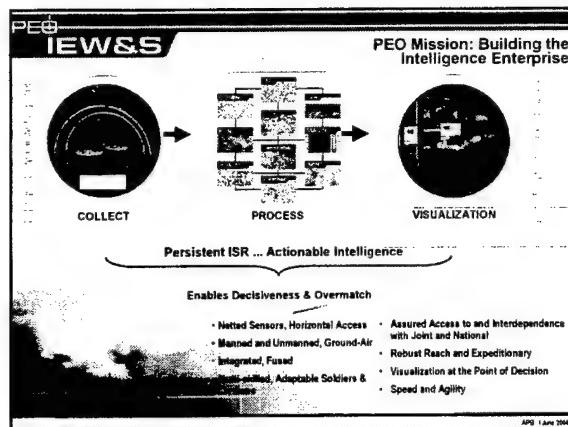
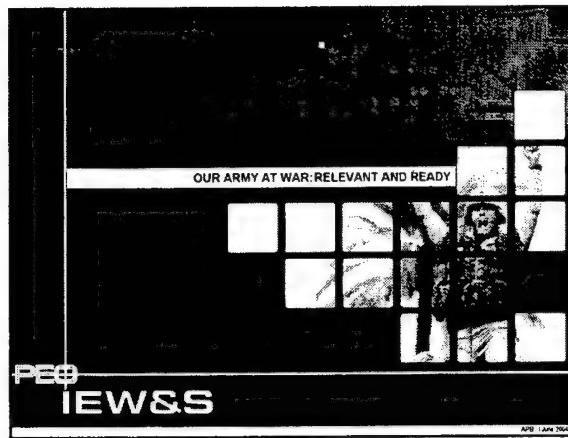


Total Engineering and Integration Services (TEIS) Recompete

- **OBJECTIVE** Award a multiple award task order contract (three – four awardees) for USAISEC system engineering and IT support services
- **CONTRACT TYPE** The Government will award an indefinite delivery/indefinite quantity services contract with fixed price (pre-negotiated loaded hourly labor rates) and time and material line items
- **ESTIMATED VALUE** Up to \$1B total requirements anticipated
- **TECHNICAL CONTACT** Brad Blau, Phone 520-538-8792
USAISEC Technical Director
- **ACQUISITION CONTACT**
Kimberly A. Wenreck, Contracting Officer
Richard Wilson, Contract Specialist
Phone: 520-538-7415 or 520-538-7459
Email: Kimberly.Wenreck@us.army.mil Rich.Wilson@us.army.mil
- **SOLICITATION #** W912KZ-04-R-0004

CECOM Bottom Line: THE WARFIGHTER

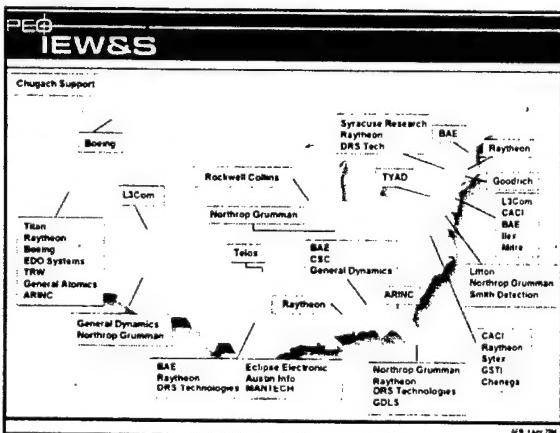
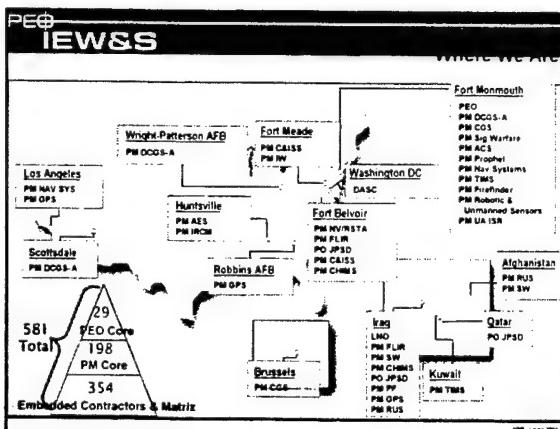
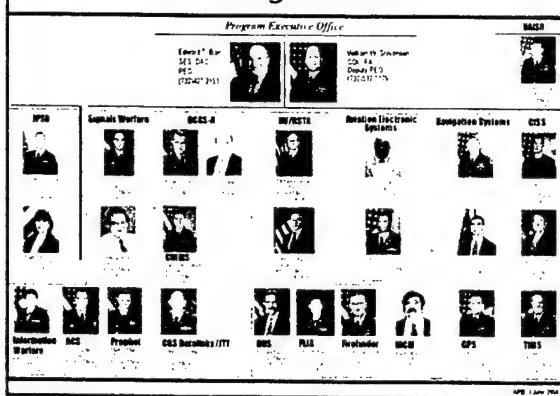
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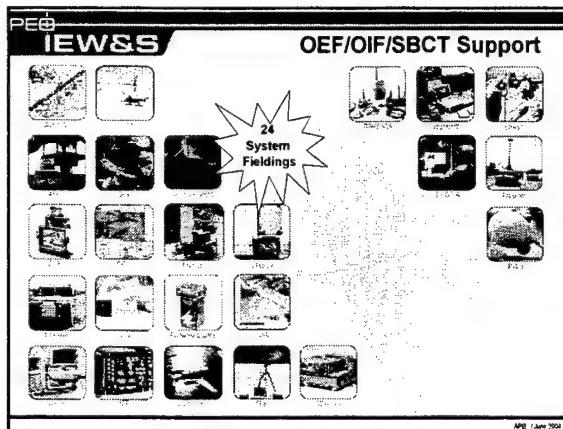
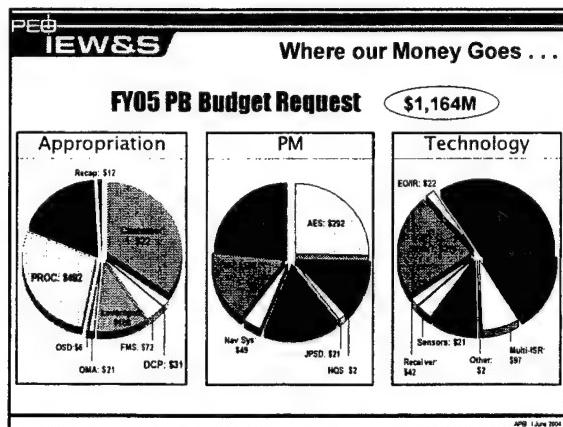
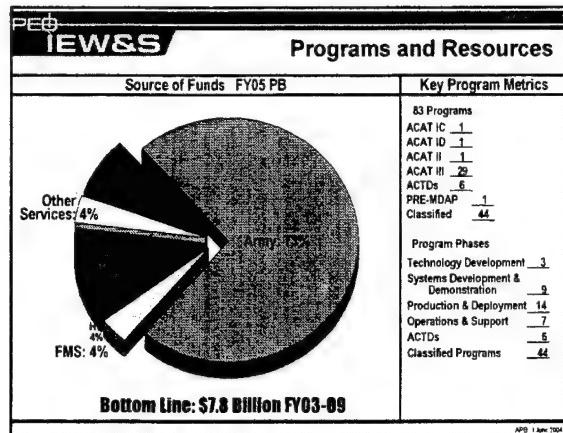


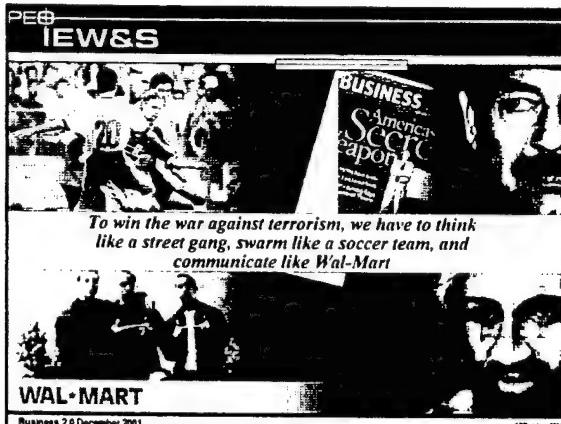
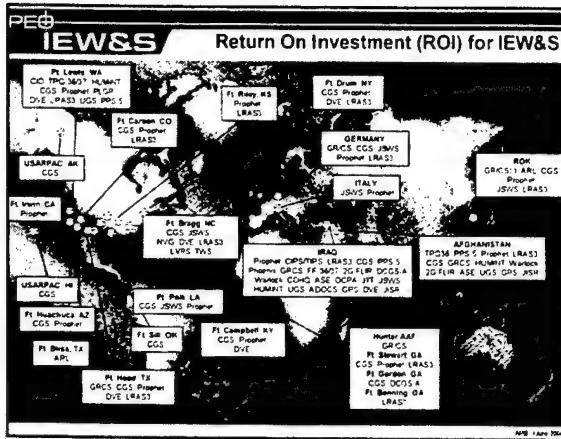
Capabilities			
PM Signals Warfare PM Aeriel Common Sensor PM Prophet PM Information Warfare	ESM ECM Information Warfare	Airsome ISR SIGINT Collection Signals Exploitation	IMINT Force Protection BDA
PM DCGS-A PM CGS & Details PM HSM	HUMINT Pufom Sensor Management	Target Analysis Data Visualization & Presentation Intet Dissemination	MASINT IMINT MOSINT Force Protection
PM NVRSTA PM FLIR PM Radar and Unmanned Sensors PM RfFinder	PM NV RSTA PM FLIR PM Radar and Unmanned Sensors PM RfFinder	Target Location Target Designation Target Detection BDA	Aircraft Survivability
PEI&S PEO INTELLIGENCE ENTERPRISE	PM Aviation Electronic Systems PM ICOM	PO JPSD	ISRM MLS
PM UAISR	PM C&ISS	Communications & Intel Support	NET Assembly Ground Sensor Integration Sensor Data Management
PM Navigation Systems PM TMS PM GPS	PM Navigation Systems PM TMS PM GPS	NET Assembly Precision Location	Navigation Warfare

APG 1 Aug 2004

FY04 Organization



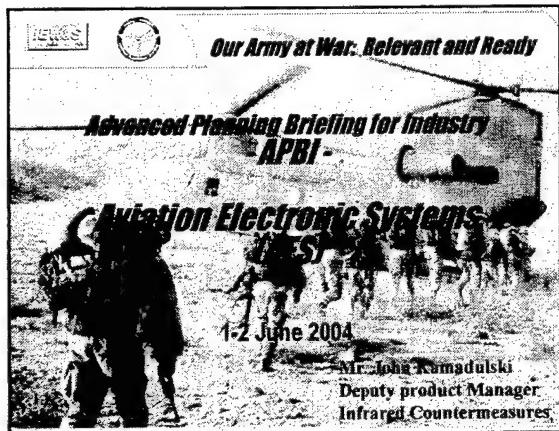




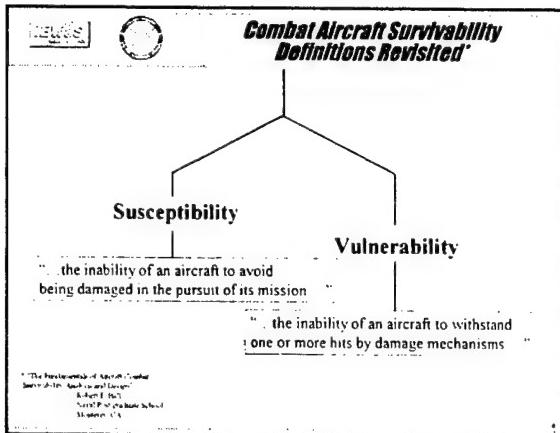
PEO IEW&S Opportunities for Industry Partnerships

<ul style="list-style-type: none"> - PM Aviation Electronic Systems <ul style="list-style-type: none"> - Emerging Requirements 	<p>Mr. John Kamadulski Deputy PM PM IRCM</p>
<ul style="list-style-type: none"> - PM NV/RSTA <ul style="list-style-type: none"> - Contract Opportunities 	<p>Mr. Tom Conway Senior Engineer PM NV/RSTA</p>

APD 1 June 2004



- Battlespace Threats
- Threat Countermeasures: Currently Deployed Solutions
- Existing / Emerging requirements: Opportunities for Industry Partnerships





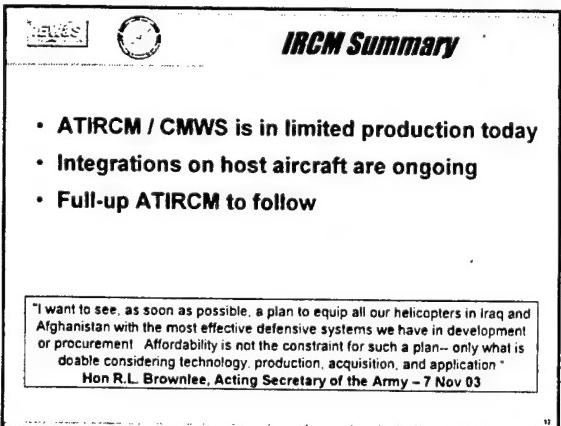
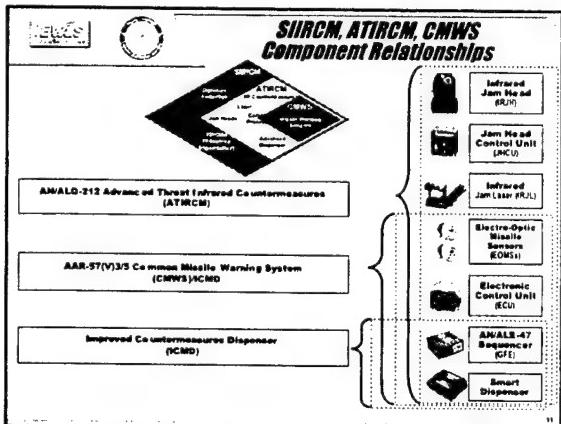
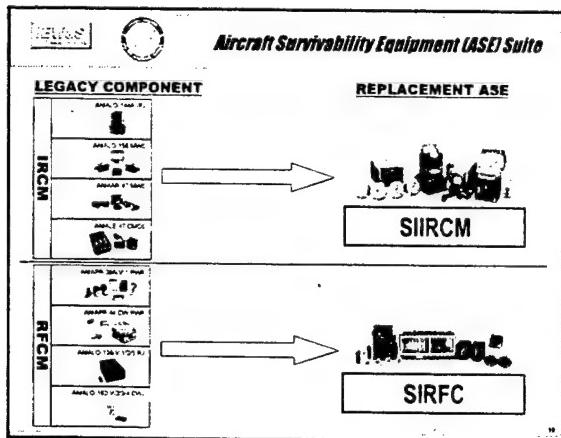
Current Countermeasures

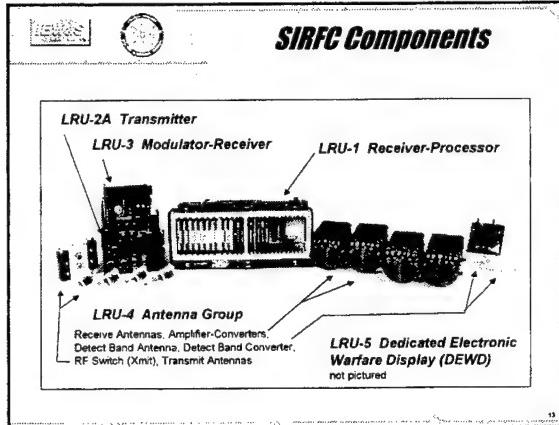
Army ASE in Use Today

- **AN/ALE-47**
 - Countermeasure Dispenser Set
 - Capable of dispensing conventional or AIRCMW (M-206, M-211, M-212)
- **AN/ALQ-144A**
 - Active IR Countermeasure
 - Continuously transmitting, rotating lamp
- **AN/ALQ-156**
 - Missile Approach Detector
 - Pulse Doppler Radar
- **AN/ALQ-136**
 - Pulse Radar Jammer
 - Automatic Radar Jamming

Army ASE in Use Today
(Cont.)

- **AN/APR-39A(V)1**
 - Radar Signal Detection Set
 - Radar Warning Receiver
- **AN/AVR-2A**
 - Laser Detecting Set
 - AN/AVR-2B: Improved accuracy; significant weight reduction
- **M-130**
 - Flare / Chaff Dispenser
 - Dispenses Chaff/Flare Decoys





RFCM Solution (Army)

Overview

- US Army solution is Radar Warning Receiver (RWR) with growth to Jammer
- System is AN/ALQ-211(V)
 - Suite of Integrated Radio Frequency Countermeasures (SIRFC)
 - Modular design allows platform-tailored configurations

Capabilities

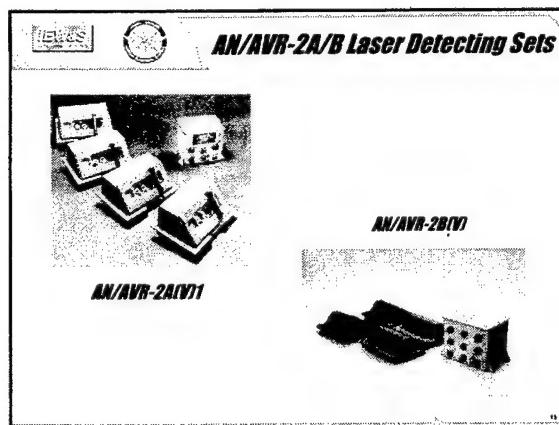
- Situational Awareness thru RWR
 - 360° Broad spectrum coverage
 - Accurate threat location
- Increased protection with Jammer
 - Multiple threat response
 - Threat-specific techniques

Funding

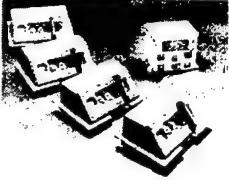
- US Army funding restarts 2005
- SIRFC will replace existing legacy RF ASE

Roadmap – 2005 - 2009

- Develop B-kit leveraging existing variants
- Aircraft integration & quality/test B-kit
- Procure B-kits
- Install B-kits on aircraft



AN/AVR-2A(V) Laser Detection Set



- **Customers:** US Army, US Navy, USMC, SOF, UK MOD
- **Aircraft:** AH-64D, OH-58D, UH-60L, HH-60H, CH-47E, MH-40K, MH-47E, MV-22, EH-101, AH-1W, UH-1N, RAH-66
- **Performance:** Bands I, II, III
AOA Quadrant
Band IV P1
- **Threats:** Rangefinders, Designators, Detectors:
Anti-Helicopter Beamriders
- **Interfaces:** APR-39, RS422, 1553 (Option)
- **Systems Delivered:** AVR-2 - 844
AVR-2A - 1157; Backlog - 113
- **Future Requirements:** US Army 1800
US Navy 700

• **V**ery Low False Alarm Rate
• **L**ightweight
• **H**ighly Reliable
• > 850 hours MTBF for AN/AVR-2
• **E**asy Maintenance (Organizational and Intermediate)
• **S**tandard Laser Warning Receiver
• Fielded by U.S. Army, Navy, Marines and SOF

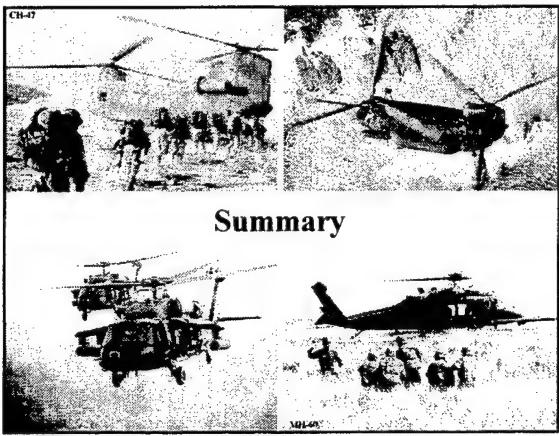
**Addressing Future Requirements:
Opportunities for Industry Partnerships**

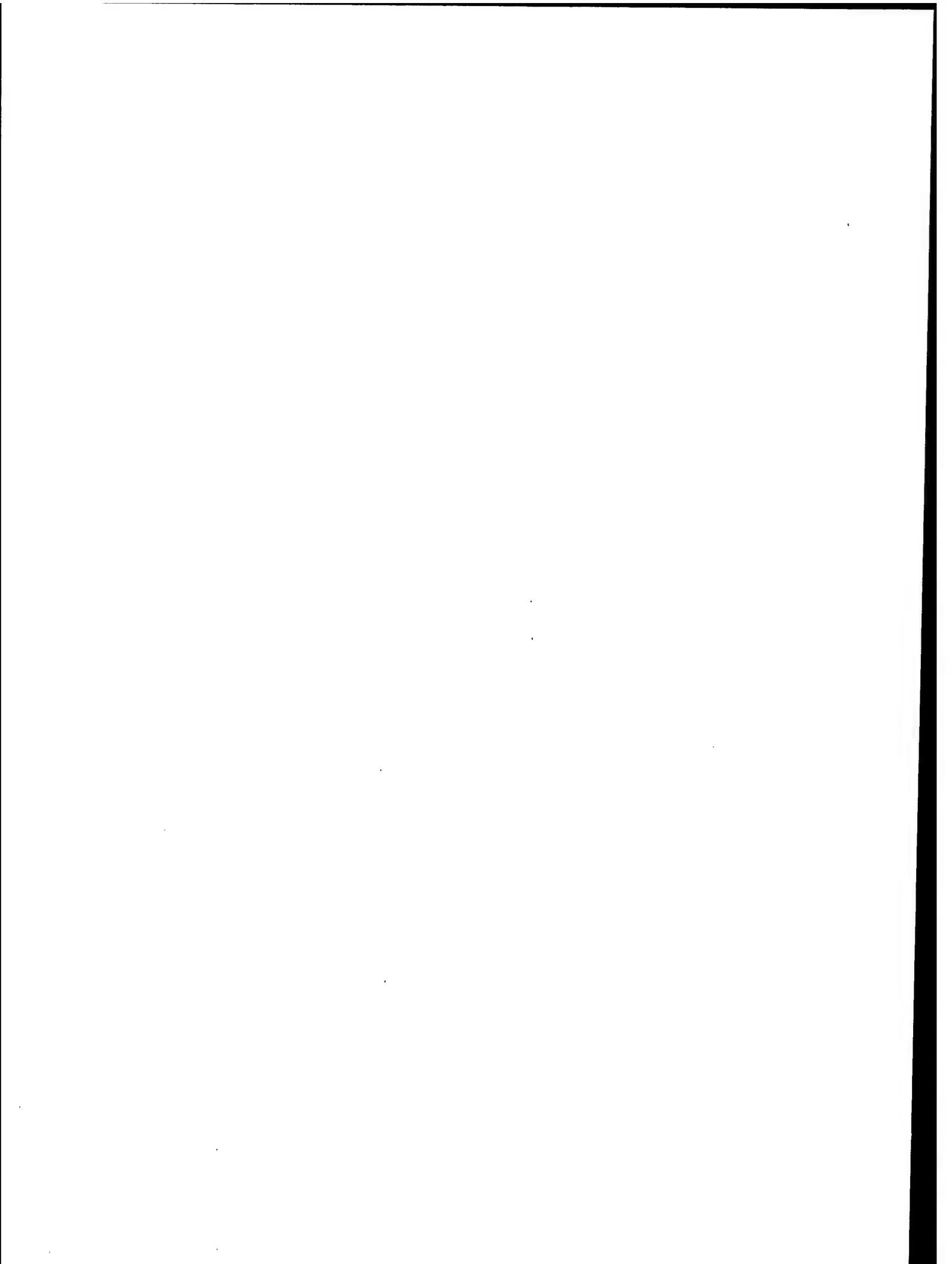
- **Miniature, low cost sensors and countermeasures capable of detecting and defeating:**
 - Small Arms fire
 - Rocket Propelled Grenades
 - Laser Guided Beam Rider Missiles
 - Anti-helicopter Mines

Science and Technology Objectives (STOs)

- **Multi-Role Airborne protection System (#AMR-06)**
- **Low Cost Threat Warning (transitioned to TARDEC: TAR-14 Integrated Survivability ATD in FY04)**

EW Countermeasures for Small Arms, RPGs, and Helicopter Mines





JEW & S

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PM NV/RSTA Mission

PM NV/RSTA develops, acquires, and provides superior, affordable day/night vision systems, weapon locating systems, and multi-sensor systems to the American warfighter.

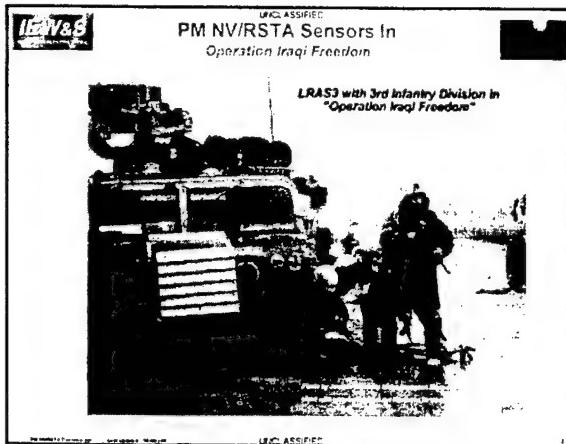
Future FLIRs

- Night Vision
- Search Through The Wall
- Uncooled Thermal B&K
- Transistorized Array Concepts
- Robotic Line Scan Sensors
- Advanced multi-purpose radars
- Cost Effective Targeting System
- Low Cost Multi-Sensor Systems
- Sensor Payloads for Manoeuvre UAVs

AMTPO-37

AMTPO-47

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IEV&S

**PM NV/RSTA Sensors In
Operation Iraqi Freedom**

See First... Understand First... Act First... Finish Decisively!

Warrior's Vision Edition

The PVT is a system of sensors and lenses to give the soldier a better view of his surroundings and the world around him during combat operations.

LRAS3

The LRAS3 is a passive sensor that can detect and track moving targets in low light conditions. It is used for surveillance and identification of friendly and enemy forces.

AMPPS-10-GAR

The AMPPS-10-GAR is a thermal sensor that can detect and track moving targets in low light conditions. It is used for surveillance and identification of friendly and enemy forces.

SIGHTSTOP

The SIGHTSTOP is a sensor that can detect and track moving targets in low light conditions. It is used for surveillance and identification of friendly and enemy forces.

LRAD

The LRAD is a sensor that can detect and track moving targets in low light conditions. It is used for surveillance and identification of friendly and enemy forces.

AMMATE

The AMMATE is a sensor that can detect and track moving targets in low light conditions. It is used for surveillance and identification of friendly and enemy forces.

Forward AMTTS-24 & AMTTS-27

The AMTTS-24 and AMTTS-27 are sensors that can detect and track moving targets in low light conditions. They are used for surveillance and identification of friendly and enemy forces.

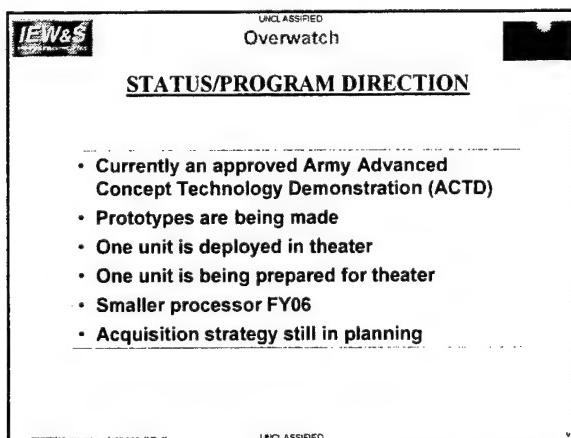
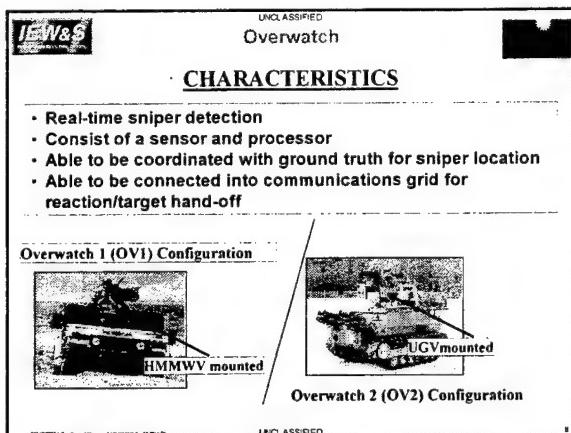
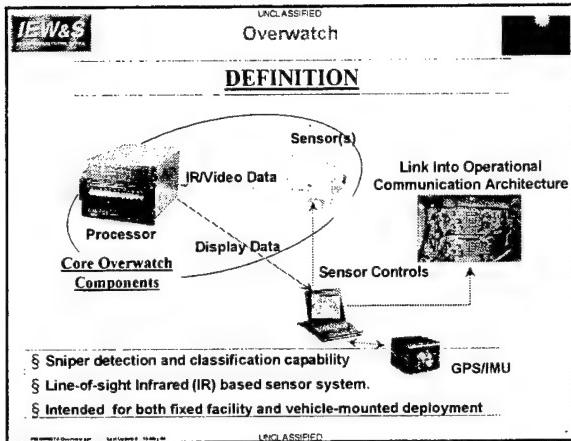
The LRAS3, AMMATE and Forward AMTTS-24 & AMTTS-27 are designed to be used in conjunction with the AMPPS-10-GAR and SIGHTSTOP sensors to provide the soldier with a better view of his surroundings and the world around him during combat operations.

UNCLASSIFIED

IEV&S

Overwatch

• Tom Conway
• Senior Engineer
• (703) 704-2661
• thomas.conway@nvl.army.mil



UNCLASSIFIED
Overwatch

CHALLENGES

- Low quantities
- Still in S&T phase
- Awaiting 'user' feedback
- Capability cuts across many potential programs
- Size and weight of core components

UNCLASSIFIED

UNCLASSIFIED
Overwatch

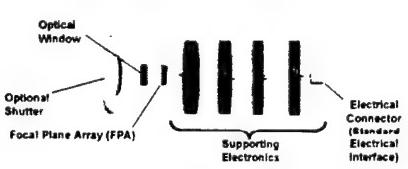
- OBJECTIVE: Detection and classification of sniper fire
- CONTRACT TYPE: TBD
- ESTIMATED VALUE: TBD
- KEY MILESTONES: ACTD ends FY07
- TECHNICAL CONTACT: Mr. Tom Conway, (703) 704-2661
- ACQUISITION CONTACT: TBD
- SOLICITATION # or RFQ #: TBD

UNCLASSIFIED

UNCLASSIFIED
Uncooled B-kit Demo/Qualification

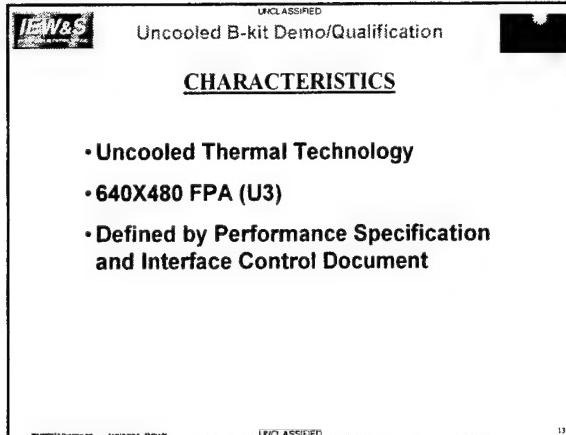
DEFINITION

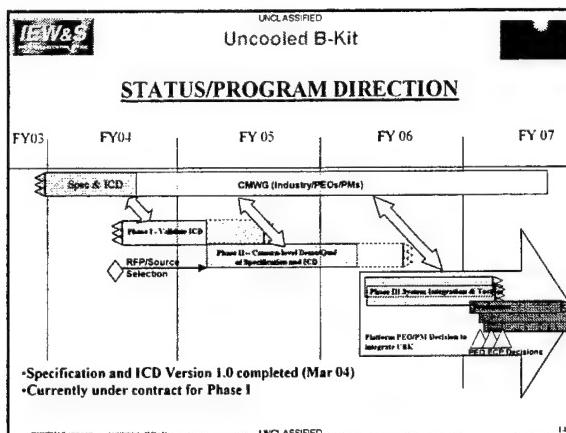
Design and develop a common thermal module that integrates potentially into soldier applications, ground vehicle applications, airborne applications, and missile applications.

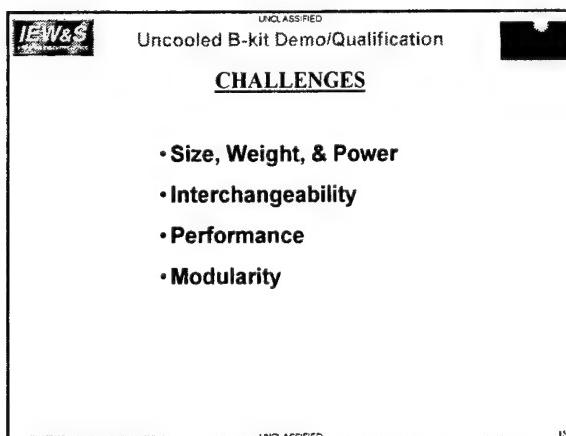


The diagram illustrates the internal structure of the thermal module. It features a central vertical column of four rectangular components labeled 'Focal Plane Array (FPA)'. To the left of this column is a diagonal line labeled 'Optional Shutter'. Above the FPA column is a horizontal line labeled 'Optical Window'. To the right of the FPA column is another horizontal line labeled 'Electrical Connector (Standard Electrical Interface)'. Below the FPA column is a bracket labeled 'Supporting Electronics'.

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IEW&S

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Uncooled B-kit Demo/Qualification

• OBJECTIVE: The objective of the Uncooled B-kit Demo/Qualification phase of the program is to design and develop a module that will meet the UBK ICD and Performance Specification. In addition, multiple vendor's modules will need to be interchangeable as demonstrated in a DVE.

• CONTRACT TYPE: CPFF; approximately 12 months in duration

• ESTIMATED VALUE: 3 awards totaling \$5M.

• KEY MILESTONES: RFP release August 2004; Contract award Jan 2005

• TECHNICAL CONTACT: Major Fitzgerald McNair (703) 704-4070, DSN 654-4070

• ACQUISITION CONTACT: Ms. Debra Gilligan, CECOM Acq. Center, 732-532-5454

• SOLICITATION # or RFQ #: TBD

UAV CLASSIFIED

IEW&S

UAV CLASSIFIED

EO/IR/LD Payload for ER/MP UAV

DEFINITION

Definition: The Army is funding the development of a new Unmanned Air Vehicle (UAV) to meet the requirements of the Extended Range/Multi Purpose (ER/MP) UAV ORD (Pending JROC Approval)

- PM UAVS under PEO Aviation will be soliciting for the Air Platform

- PM RUS under PEO IEW&S will be soliciting for the EO/IR/LD Payload

UAV CLASSIFIED

IEW&S

UAV CLASSIFIED

EO/IR/LD Payload for ER/MP UAV

CHARACTERISTICS

• Characteristics of the payload are being finalized, but the following requirements are known:

- Payload Weight: 100lbs or Less
- Size: 1.9 Cu Ft or Less
- Power: < 900 Watts
- Recognition Slant Range: 8Km
- Laser Designation Slant Range: > 8km
- System Target Location Error: 25m or Less

UAV CLASSIFIED

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EW&S

EO/IR/LD Payload for ER/MP UAV

STATUS

- Request For Information sent to Industry
 - PM UAVS Hosted ER/MP Industry Day on May 5th
 - Final EO/IR/LD Solicitation being prepared for May Release
 - Anticipate EO/IR/LD Contract Award by Dec 2004.

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I&EW & S

EO/IR/LD Payload for ER/MP UAV

CHALLENGES

- **Schedule**
 - First payload required for Host Platform Integration by 2nd Quarter FY06
 - Balance of Payloads due by 4th Qtr FY06
- **Performance**
 - Accuracy Requirements will be demanding
- **Cost**
 - Minimal Development funding
 - Need to minimize recurring payload cost to support UAV application.

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IEW&S

EO/IR/LD Payload for ER/MP UAV

- **Contract Type**
 - To Be Determined.
 - Estimated Value: \$10M
- **Key Milestones**
 - Award – Dec 2004
 - Initial Delivery – Jan 2006
 - Final Delivery – July 2006
- **Technical Contact – Eugene Lehman, APM Payloads**

Phone: DSN 987-8007 COM,(712)427-8117
FAX: DSN 987-5072 (712)427-5072
Email: Eugene.Lehman@ics.monmouth.army.mil
Address:
PM RUS
Attn: SFAE-IEW&S-NV-RUS (E.Lehman)
Bldg. 2525, Bay 2
Charles Wood Area
Fort Monmouth, NJ 07703 5503
- **Solicitation #, TBD**

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Next Generation UGS

DEFINITION

- PM RUS is Responsible for the Development and Fielding of Current Generation UGS (REMBASS II) and the management of Future Combat System UGS for the Unit of Action (UA). There is also a requirement for near term UGS that are lower cost and more capable than current UGS for use in Force Protection and potentially in the Army's Task Force Modularity efforts to turn today's Army in to Units of Action.
- PM RUS is looking to pursue Next Gen UGS for Force Protection, leveraging our experience with Today's UGS and our efforts with FCS UGS.

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Next Generation UGS

CHARACTERISTICS

- Low Cost
- Trip Detection Capability
- Provide for Rapid/Remote Emplacement
- Extended Range Communications
- ID Capability
- Extended Operation without Battery Replacement
- Reprogramming ability
- Interface to current and future Army Battle Command Systems
- Tactical, force protection and border security operation
- Networked

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Next Generation UGS

STATUS/CHALLENGES

- Status:
 - Currently in study phase researching sensors currently in production, development and commercial as alternatives.
 - Will be soliciting in FY05 for Industry Solutions
- Challenges:
 - Schedule; Delivery in FY05 if Possible
 - Performance; Extended Communications Ranges and Operation on Battery Power
 - Cost; Will need to be expendable

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IEW&S

Next Generation UGS

- Contract Type: TBD
- Estimated Value: \$7M
- Key Milestones:
 - RFP Release: Nov 2004
 - Contract Award: Apr 2005
 - Delivery: Nov 2005
- Technical POC – MICHAEL C. KARPIE
 - PM Robotic & Unmanned Sensors
 - Phone: DSN 987-6848/ COM: (732)427-6848
 - FAX: DSN 987-5072/ (732)427-5072
 - Email: Michael.Karpie@iews.monmouth.army.mil
 - Address: PM RUS
 - Attn: SFAF-IEW&S-NV-RUS (M. Karpie)
Bldg. 2525, Bay 2, Charles Wood Area
Fort Monmouth, NJ 07703-5503
- Solicitation #: TBD

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IEW&S

OWL/SADA

DEFINITION

SADA – Standard Advanced Dewar Assembly
OWL – One Watt Linear cryogenic cooler

In support of
HTI SGF – Horizontal Technology Integration
Second Generation Forward Looking Infrared

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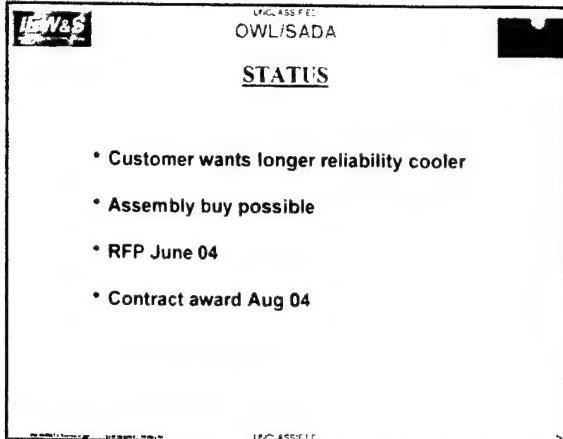
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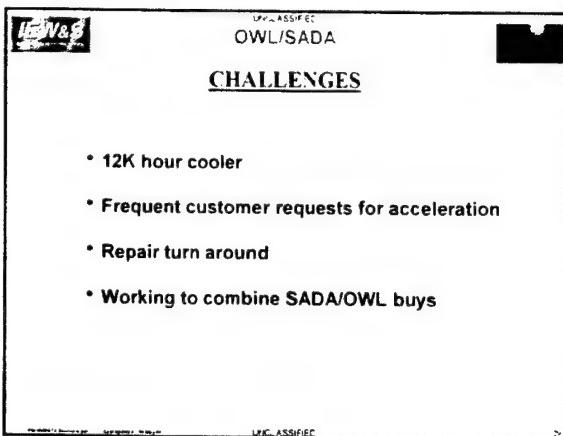
OWL/SADA

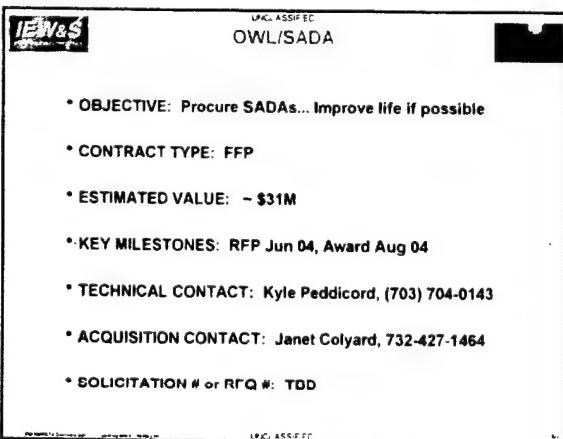
CHARACTERISTICS

- SADA is detector/coolier combined
- Cooler is similar to older; but longer life, more reliable
- 12,000 hours vs. 4,000 hours
- Interchangeable with 2nd GEN HTI in terms of form, fit & function

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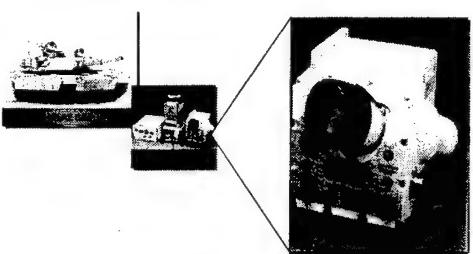




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BICU

DEFINITION

Biocular Image Control Unit (BICU)



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BICU

CHARACTERISTICS

- 5 year, multi-year award with incremental funding
- FY04 procurement of 64 Block 0 BICUs (base) + 65 (options)
- FY04 procurement of 125 Block 1 BICUs (base) + 400 (options)
- Ship Block 0 units starting Oct 05
- Ship Block 1 units starting Sep 05

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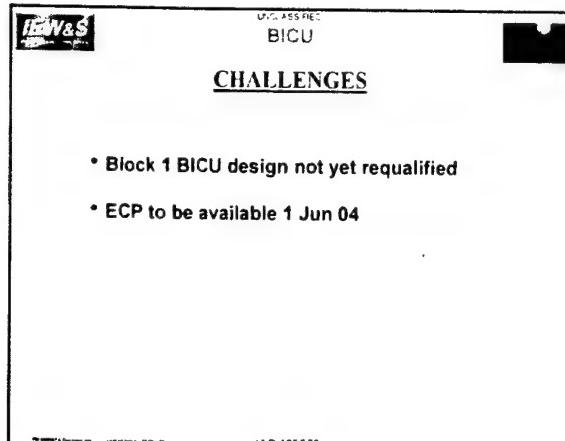
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BICU

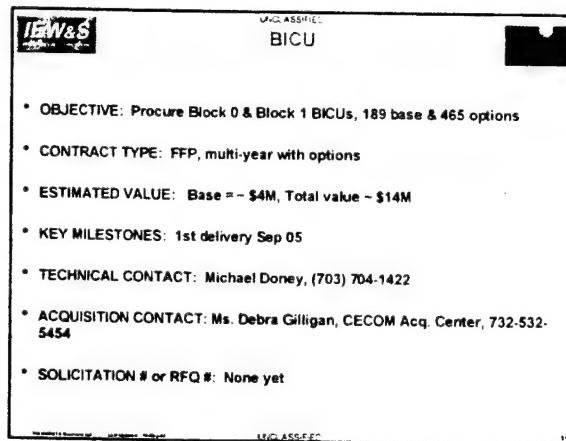
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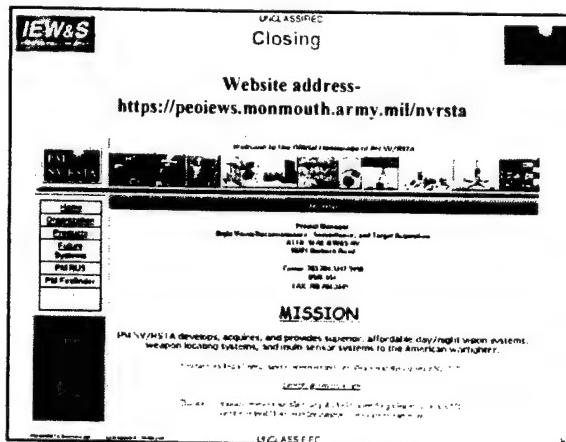
- Block 1 is an ECP to the current design
- (MIL-PRF-12978041) spec requirements

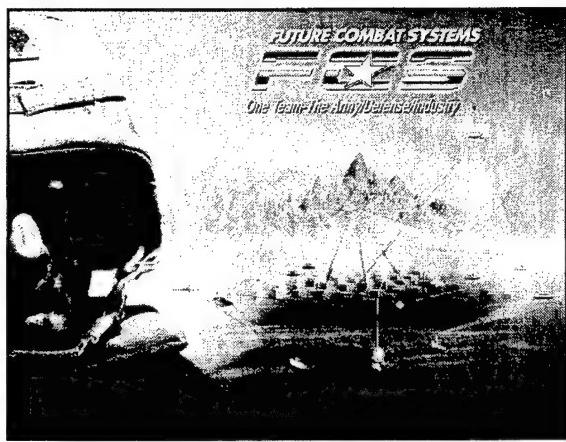
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FUTURE COMBAT SYSTEMS
FCS
One Team-The Army/Defense/Industry

**Network Integration for FCS Equipped Units of Action:
Bringing Net-Centricity to the Future Force**

Advance Planning Briefing for Industry
2 June 2004
Fort Monmouth, NJ

COL Jonathan Maddux
PM UA Network Systems' Integration
Fort Monmouth, NJ

Mr. Donald DePree
Lead C4ISR IPT, LSI
Huntington Beach, CA

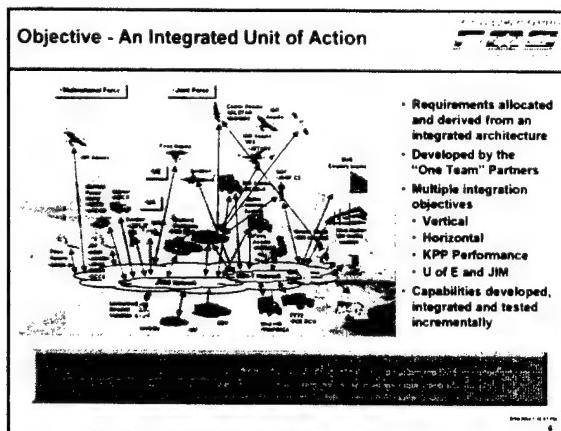
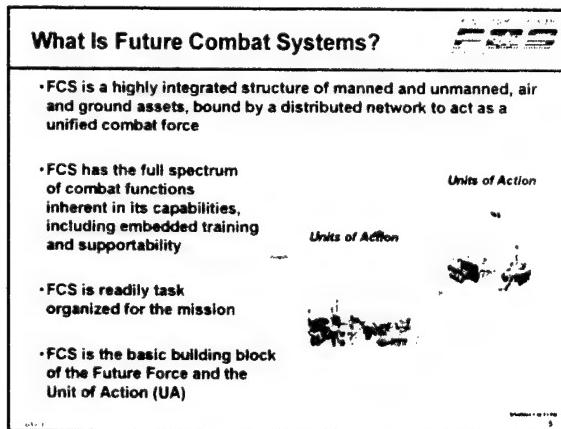
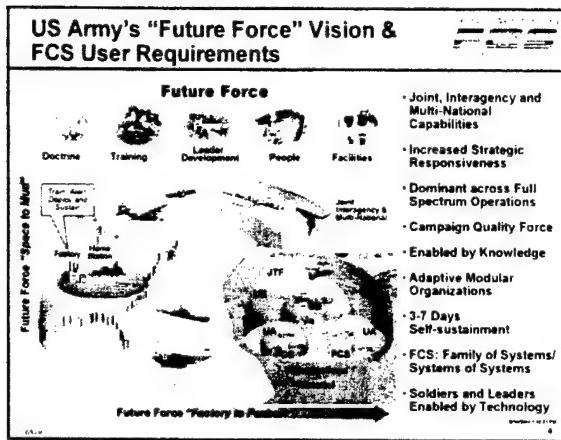
**Program Manager's Intent: Field FCS-equipped Units of Action with
Threshold Future Force Capability by the End of the Decade**

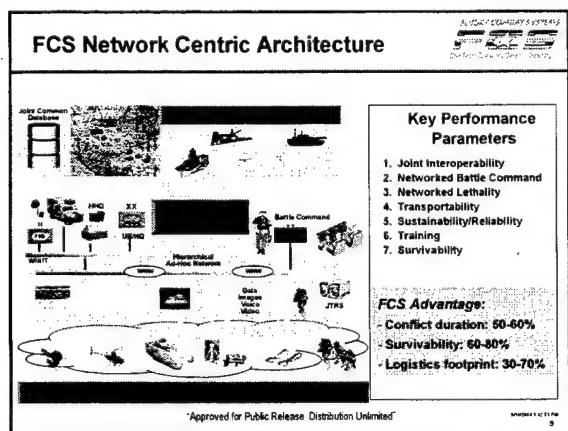
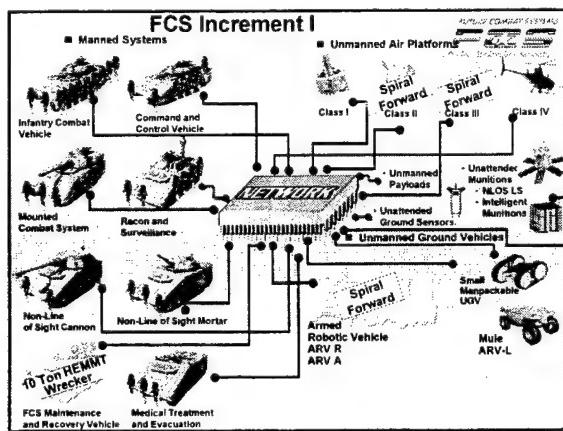
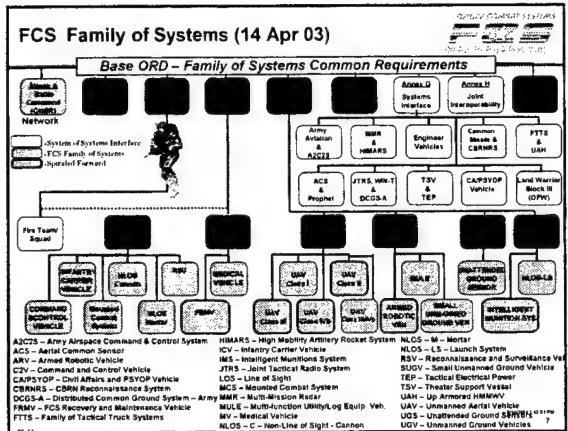
Outline

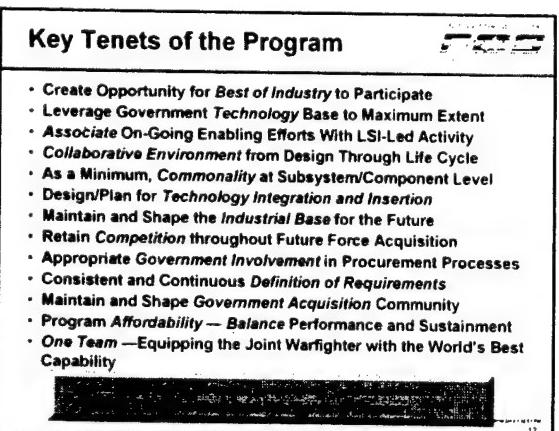
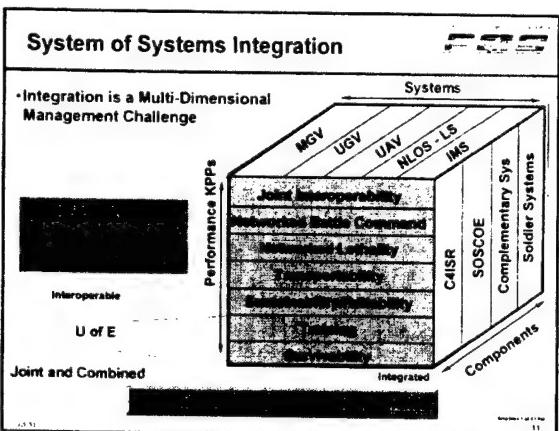
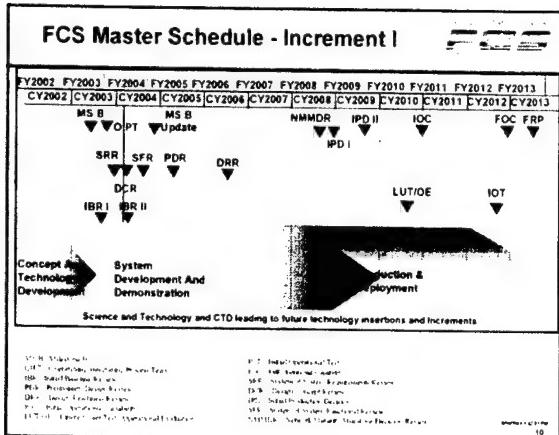
•FCS Program Overview

•C4ISR Capabilities

•C4ISR Related Challenges







Overarching Acquisition Strategy

- Buy Future Combat Systems; Equip Soldiers; Field Units of Action (UA)
- Embrace Evolutionary Acquisition While Requirements Mature
- Contracting via Lead Systems Integrator
- Demonstrate-Live and Virtual-Force Operational Capabilities of the UA
- Balance Test and Evaluation With Modeling and Simulation
- Sustain DARPA/Army Collaborative Relationship for the Future
- Expand to Joint, Interagency, and Coalition Partners
- Design for Supportability-Performance-Based Logistics
- Identify and Manage Risk Throughout the Program

*It Is About the Networked System of Systems...
and How it Enables Dominant Land Combat.*

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Competition Plan

- Competition is a key Tenet of the Program
- Promotes Competition to the maximum extent
- Capitalize on Broad Industry Announcement process
 - Identifies and share sources for key technology areas
 - Continued Market Research to identify and incorporate:
 - Small Businesses/Non-Traditional Defense Contractors
 - Technology requirements for technology insertion
- Involves all Major Partners in Process
- A key flow down in all major contracts
- Strategy encompasses Boeing/LSI Best Practices
 - Best Value approach to source selection
 - Senior Government participation in all phases including final source selection approval
 - Small and Non-traditional Business participation
 - Partner involvement to achieve horizontal integration

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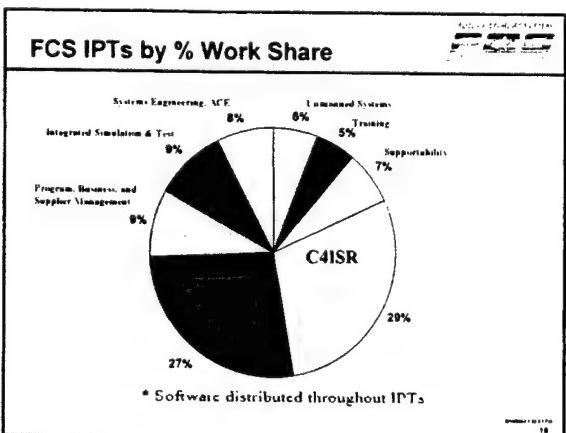
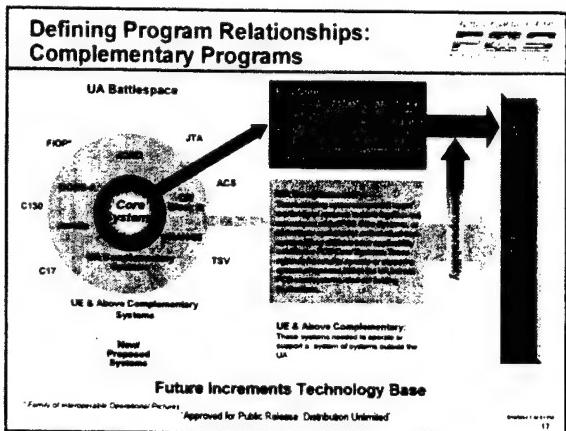
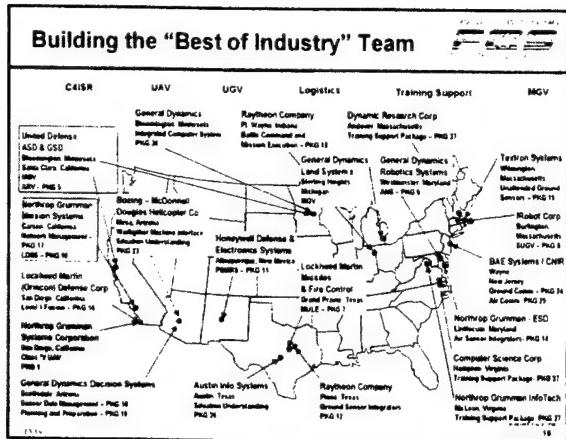
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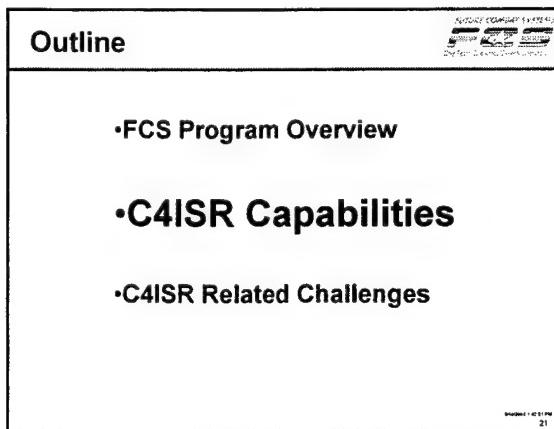
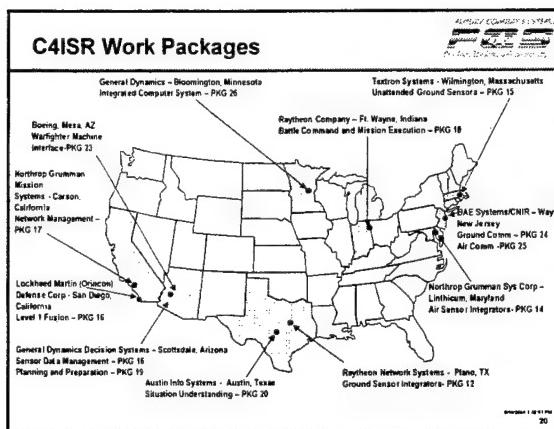
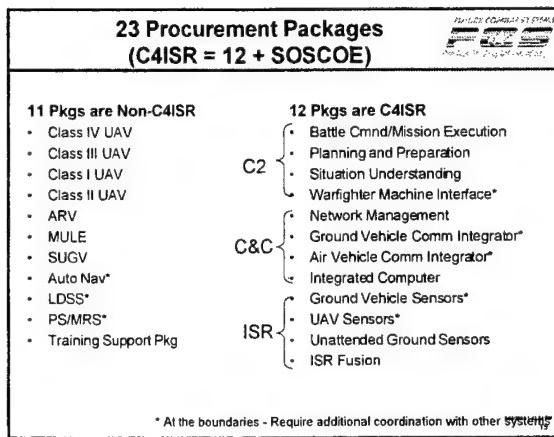
Contracting Approach

- Broad Industry Announcements (BIA's)
 - Utilize BIA process to identify and include the Best of Industry for FCS
 - Significant industry participation (over 4500 proposals evaluated)
- Conducted Nine industry briefings with over 1100 participants
- System Design and Development (SDD) Competition
 - Significant industry participation in Specification, SOW and RFP development
 - RFPs unrestricted to Industry
 - Over 1600 RFPs released to 309 suppliers for 23 subcontracts
- Conducted "Best Value" source selection
 - 23 supplier partners selected (21 large and 2 small)
 - Debriefs given to suppliers detailing ratings and rankings
- FCS policy encourages Small business participation
 - Small businesses are a large part of our "Best of Industry" team
 - Small business plan is aligned to contract goals that are flowed down to our large business partners

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Network Centric Operations



- A warfighting approach that emphasizes speed, precision, flexibility, and superior knowledge to concentrate combat power, and prevent resistance.
- Key Attributes:
 - Information Superiority through widespread Networked Communications
 - Common information availability to create Shared Awareness
 - Increased Speed of Command and Adaptability by using Intelligent Decision Aids

Diagram illustrating the Network Centric Operations architecture, showing the flow from Sensors to Command and Control.

Diagram 1 of 10

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C4ISR Overview

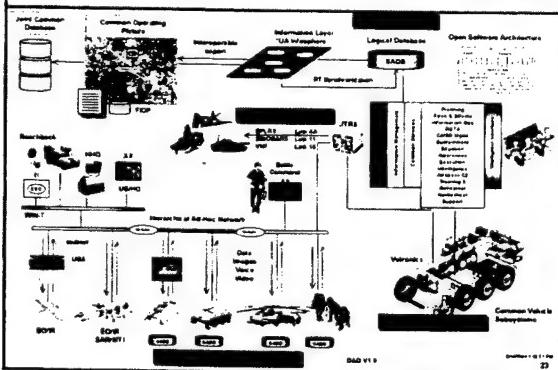
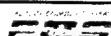


Diagram 2 of 10

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C4ISR Components

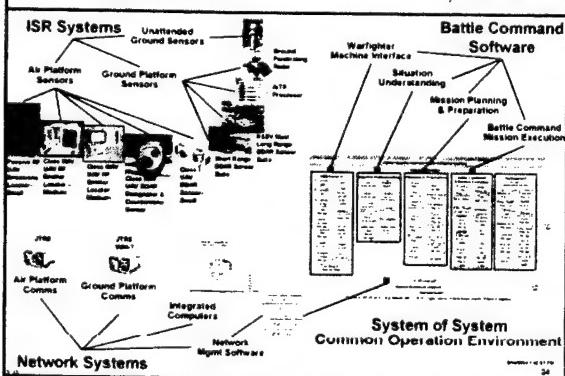


Diagram 3 of 10

24

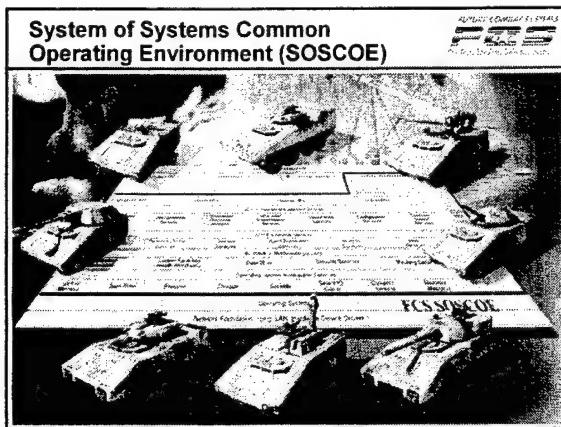
Major C4ISR Software Components

FUTURE COMBAT SYSTEMS
FCS

- SOSCOE – System of System Common Operating Environment
 - Admin Services
 - Application Program Interface
 - Information Management Services
 - COTS NDI
- Command and Control (C2) Applications
 - Battle Command & Mission Execution
 - Planning and Preparation Services
 - Situational Understanding
 - Warfighter Machine Interface
- Network Management

SP00001 101-01

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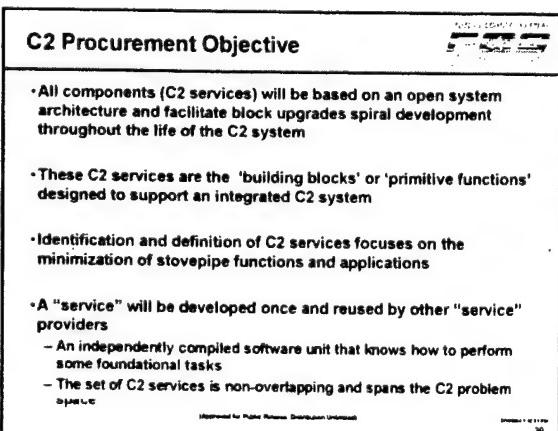
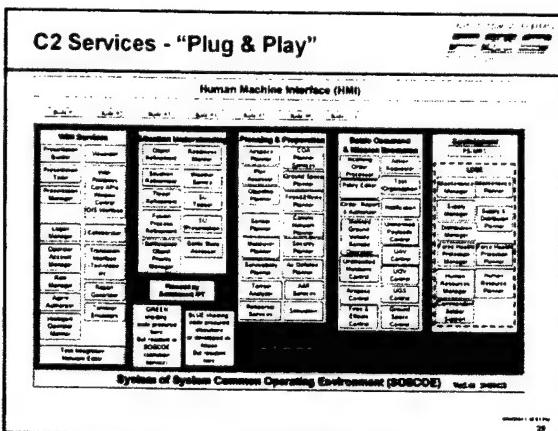
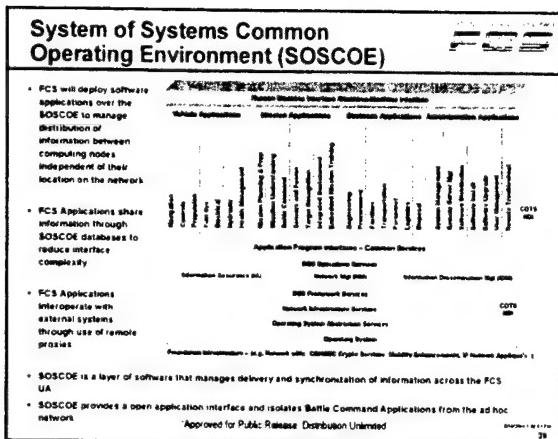
SOSCOE: The Key to System of Systems Integration

FUTURE COMBAT SYSTEMS
FCS

- Eliminate C2 stovepipes and reliance on specific purpose systems
 - Common C2 software systems for all warfighters
 - Echelon- and mission-appropriate functionality conditioned by C2 policies
 - Minimum number of special purpose systems for specialized functions
- Develop an evolving system based on open system, standards based software architectures
 - Use of legacy codes within a modular software architecture
 - Minimum use of legacy systems
- Distribute functionality to the lowest level possible by resource allocation
 - Dynamic, automatic allocation of resources based on Commander's Intent, Priorities, and Rule Sets (Orders)
 - Rapid response of support to units (Fires, etc.)
 - New codes and capabilities to enable core NCW functionality
 - Automatic allocation
 - Dynamic adjustment
 - Commander sets thresholds and parameters
- Enable real-time, dynamic collaboration based on task similarity, situation, mission
 - Team of teams – orient to common goals
 - De-emphasize hierarchical structures
 - Encourage C2 structures to organize functionality and code packages by echelon, role and mission
- Mechanisms
 - Software
 - Implement doctrine by configuration settings, not by hardwiring test flows
 - Design in the capability to evolve through experimentation
 - Virtual Staff
 - Services and automated agents
 - Reduced footprint in area of operations
 - Collaboration made transparent and ubiquitous
 - Automation
 - Dynamic task groups
 - Dynamic networking
 - Ubiquitous C2 and information management services
 - Distributed, low latency peer to peer information management

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WMI



- Integrates the FCS warrior's visualization and interaction needs for data and services across all manned ground vehicles and support equipment. A key characteristic will be the ability to separate the WMI visualization and interaction methods provided to the FCS war fighter from the generation of data and services within the underlying applications
 - The WMI Software Layer is an integral part of the FCS Software Architecture and integrates the FCS war fighter's visualization and interaction needs for data and services across all manned ground vehicles and associated off-vehicle equipment.
 - The WMI concept also extends to control unmanned vehicles and non-developmental vehicles.

Associated Par Books Database. Generated: June 2019.

Planning and Preparation



- Supports development of plans and the preparation of the Unit of Action to execute them.
 - This package supports all planning, rehearsal, and preparation activities related to FCS UoA missions.
 - Planning packages need to support planning activities prior to, during, and after a given mission.
 - Anticipatory planning that occurs during battle execution, that is, during a mission, will utilize planning algorithms from this package as well.
 - Constructive simulation and evaluation are supported.
 - Preparation includes virtual simulation, AAR, training, and mission rehearsal.
 - Planners provide editors where necessary to allow modifications to the planner objectives, constraints, and recommendations from the operator.

(Approved for Public Release Distribution Unrestricted)

0792000-1-00-9190

Battle Command



- Provides the functions and services to conduct, refine and execute missions
 - Includes the functionality to:
 - Access data from national technical means
 - Allocate effectors to targets and conduct fires
 - Request artillery support from UE, synchronize fires with air-ground operations
 - Assess enemy actions and collect friendly force information
 - Evade and escape, protect dismounted soldiers and platforms
 - Request artillery support from UE, synchronize fires with air-ground operations

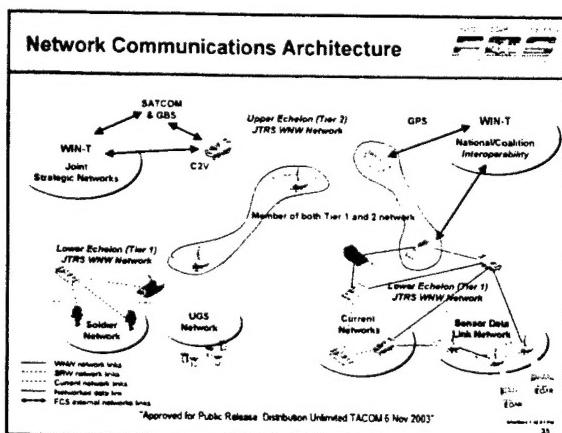
[Approved for Public Release, Distribution Unlimited]

Situation Understanding

This component of C2 contains the services needed to support the war fighter in any role, in building a sufficient understanding of the situation for that role that seeing first and acting optimally is the most likely outcome.

- It gathers the common operational picture (COP) data for the scope of that role by employing the four levels of intelligence fusion and augmenting that with high fidelity records of mission progress and readiness.
- It engages the war fighter in evaluations and reporting as needed through the War fighter Machine Interface (WMI).
- It relies on Information Management (IM) services to publish and subscribe the needed data.

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Comms Network Management Functions

- Network Management
- Fault and Performance Management
- Configuration and Reconfiguration Management
- Security Management
- Key Management
- Spectrum Management
- Policy Management
- Network Planning
 - High Level Planning
 - Detailed Mission Planning
 - Dynamic Re-Planning and Reconfiguration
- Performance
 - Capacity/Scalability
 - Bandwidth Consumption
 - Latency/Response Time
 - Accuracy

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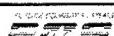
Integrated Computer System



- The C4ISR computer system will be provided by a single Prime contractor
- Deliverables
 - Hardware
 - Processors, displays, controls, storage, memory, I/O, power, etc
 - Software
 - Operating System
 - Operating System extensions
- Driving design considerations
 - Open Architectures and Standards
 - Commonality
 - Upgrade ability
 - Maximize ability to utilize technological advances
 - Minimize impacts of technology obsolescence

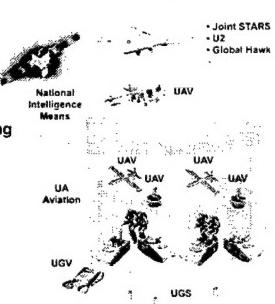
Slide 37

See First/Persistent ISR



Distributed/Networked Sensors

- Provides unequaled Situational Awareness down to the Soldier System
- Enhances survivability through knowing and avoiding enemy fires
- Enables precision engagement beyond the effective range of the opponent
- Maintains contact and engagement in detail throughout the mission



Slide 38

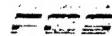
Outline



- FCS Program Overview
- C4ISR Capabilities
- C4ISR Related Challenges

Slide 39

Sensor Related Challenges



- Mine Detection
- Lightweight, Low Cost, High Quality UAV Sensors
- Through the Wall Sensors
- FOPEN (sensing through foliage)
- Unattended Ground Sensors Dispenser
- Combat ID
- Directional Broadband Antennas

Networking/C2 Related Challenges



- Ad Hoc Wireless Network
- Quality of Service Driven Network
- High Data Rate Comms
- Unmanned Relay
- Network Centric C2
- Collaborative C2 / Warfighter Machine Interface

Facilitating the Future



.....How to "Get There" from here.....

- Unprecedented "Partnership"
- Revolutionary/Evolutionary Acquisition Approach
- "Best of Industry" Business Approach
- Spiral Development/Technology Insertion
- Integrated Simulation and Test
